Mohen-jo-daro

MARIWALLA

102

913 63.00

OHEN-JO-DARO

राजकीय संग्रहालय, लखनऊ
क्रमसंख्या 102
प्राप्ति तिथि 13.11.59
विभाग
श्रेणी
STATE MUSEUM, LUCKNOW.

By

Prof. C. L. MARIWALLA,
Sir Evan James Prizeman,
JAI HIND COLLEGE,
BOMBAY.

BALKRISHNA BOOK Co.
Hazratganj. Lucknow

Printed in India

Ist. Edition, 1957.

All Rights Reserved by the Author

Rupees Three Only

Selling Agents

POPULAR BOOK DEPOT

LAMINGTON ROAD, BOMBAY-7.

To

My Grandfather

TECKCHAND VITHALDAS MARIWALLA

who

Originally prompted the attempt

BALKRISHNA BO
Hazratganj

Preface

The Indus Valley Civilization, which first revealed itself at Harappa, and later and more profusely at Mohen--jo-daro, represents the earliest phase of civilized life in India. The Indus Civilization establishes the traditional antiquity of India. A handy volume on the subject, particularly on Mohen-jo-daro, has not been available for some time past. The present book attempts to satisfy this need. It presents the Indus Civilization at Mohen-jo-daro in particular.

The author is grateful to the Archaeological Department of the Government of India for special permission to photograph the ruins and the articles unearthed, and to reproduce the same. The author is also obliged to his friends and colleagues, Profs. K.K. Gajria, and K.B. Advani, for going through the manuscript and making valuable suggestions. The author acknowleges his indebtedness to the writers from whose works he has quoted, as also the publishers of these books.

The author is sanguine that the book would be found useful, and serve the purpose for which it has been attempted.

VISHRANTI,
SION, BOMBAY-22,
1-12-1957.

C. L. Mariwalla

CONTENTS

		Page
1.	Mohen-jo-daro and the Indus Valley Civilization	1
2.	The Sites, their antiquity and final abandonment	4
3.	The Legend of the City	10
4.	The Story of the Excavations	12
5.	Architecture and Civic Amenities	16
6.	Food, Clothing, and Personal Adornment	27
7.	Amusements	33
8.	Crafts and Industries	35
9.	Commerce	45
10.	Art	46
11.	Religious Beliefs	53
12.	The Art of Writing	61
13.	Authorship of the Civilization	66
14.	Social Life and Political Organisation	80
15.	Epilogue	82
	Select Bibliography	85

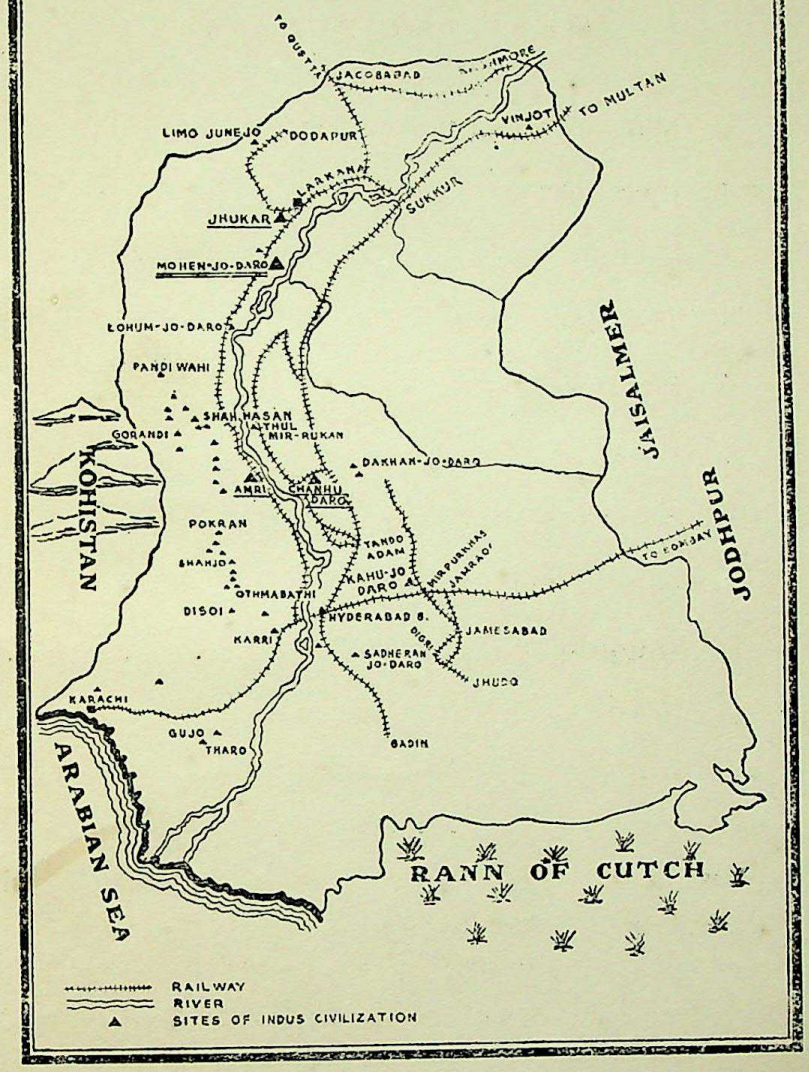
MAPS AND PLATES

1.	Map showing Indus Sites	vii
2.	Jewellery	*Facing Page 1*
3.	General View of the Ruins	*At the End*
4.	The Great Bath	,,
5.	Road with Drains	,,
6.	Wells	,,
7.	Pottery Storing Jars	,,
8.	Toy Objects & Weights	,,
9.	Religious Objects	,,
10.	Seals	,,

ERRATA

Page	*Line*	*As Printed*	*As Corrected*
1	10	Shri Rakhidas Bannerji Officer–	Shri Rakhildas Bannerji, Officer–
8	8	— thet ypical	— the typical

SIND, ITS CHALCOLITHIC SITES



Jewellery

From

Mohen-jo-Daro

MOHEN—JO—DARO
And
THE INDUS VALLEY CIVILIZATION

The epoch-making discovery of the Indus Valley Civilization was announced to an astonished world late in 1924 through a series of articles in the Illustrated London News by Dr. Sir John Marshall, then Director General of Archaeology in India. Till then, despite tradition to the contrary, Indian History began with the advent of the Aryans in India in the 2nd Millennium B. C. India had accordingly been placed among the junior countries of the world in point of antiquity of her civilization and culture. Shri Rakhidas Bannerji Officer-in-charge of the Western Circle of the Archaeological Department of the Government of India, was on the look-out in the Indus Valley for the 12 stone altars said to have been erected by Alexender during his march from the Bias to the Ocean, and thought of finding one near the Buddhist Stupa surmounting the rolling mounds of ruins at Mohen-jo-daro in Central Sind, when he tumbled on a treasure-trove, which has altered the entire conception of the course of Indian History. By a chance stroke of the archaeological spade, the story of man in India was pushed back by thousands of years, and the antiquity of Indian Civilization stood revealed to the world. India hence forward became a contemporary of Egypt and Mesopotamia in regard to to the antiquity and advancement of civilization, the trio forming an extensive cradle of ancient culture. A

few years earlier, another archaeological officer had recovered a set of peculiar pictographic seals from Harappa in the Montgomery District of the Punjab– now in Western Pakistan–, but no scholar had been able to place them conclusively and correctly in the time scale of History. The un-earthing of Mohen-jo-daro, nearly 400 miles south-east in 1922, however, confirmed the belief that the seals from Harappa were of Indus Valley manufacture, and marked the Chalcolothic (Stone-cum-Metal) Age in Indian History. Excavations at Mohen-jo-daro were taken up in right earnest from now onwards, the immediate results of which made Sir John Marshall to announce his epoch-making discovery towards the fag end of 1924. At the same time experienced archaeological officers were sent on scouting tours of the Indus Valley and the adjoininig regions. The results of Shri N. G. Majumdar's archaeological reconnaissance in Sind, Mr. W. Hargreaves' sub–terrestrial discoveries in Baluchistan– at Nal in particular, Sir Aurel Stein's archaeological excursions in the region to the North-West of the Valley, and the work of other archaeologists in the Peshawar, Mardan, Rawalpindi, Lahore and Montgomery Districts reveal the astonishing fact that the Indus Valley Civilization was not confined merely to a few city-sites like Mohen-jo-daro, Harappa etc., but enjoyed extensive ramifications. The sites pertaining to the Indus Valley Civilization extended from the frontiers of Kashmir to the shores of the Arbian Sea, its western outliers extending to Baluchistan. It has also been established that there existed intimate and lively contacts between the Indus Valley and the Valley

of the Twin Rivers– the Euphrates and the Tigris, (Mesopotamia or Iraq), both by land and sea. The Indus Valley Civilization has been so called because of the more than three score sites of this civilization spread throughout the lower valley of the Indus. The name denotes the entire locality where the peculiar civilization persisted for a long time. The Indus Valley Civilization is also called "Harappa Civilization" by the type-site method of denomination, because Harappa was the first site coming to light, yielding finds of this peculiar civilization. The same civilization is also sometimes named the Mohen-jo-daro Civilization, because of the extensive finds recovered from Mohen-jo-daro, which alone have made possible a fairly complete re-construction of man's life at such a remote period as the 3rd Millennium B.C.Though Harappa is nearly as extensive in area as Mohen-jo-daro, it was robbed of its brick-work by the Railway contractor,– laying his track from Multan to Lahore during the second half of the last century,– and the treasure-seeker followed suit, before the archaeologist could appear on the scene. But Mohen-jo-daro fortunately remained undisturbed and, furnished the requisite material for the re-building of that glorious epoch of Indian History.

THE SITES, THEIR ANTIQUITY AND FINAL ABANDONMENT

Mohen-jo-daro— the Mound of the Dead, the Dead City, or the Citadel of Raja Mohan– lies in the islanded belt between the Indus and the Western Nara, to the north of the Lab-darya Taluka of the Larkana District in Sind (W. Pakistan). It is at a distance of about 25 miles in the south-east direction from the District Head Quarters and some seven miles from the small Railway Station of Dokri on the Dadu branch of the North Western Railway. Mohen-jo-daro thus stands situated in the most fertile region of the lower Indus Valley, which to this day is denominated Nakhlistan or the Palm Grove, a region that never hath known scarcity. It is evident that in its prime the city was washed by the waters of the Indus. The river can still be seen from the mounds at a distance of about three miles meandering its way to the ocean. The rolling mounds of ruins at Mohen-jo-daro cover an approximate area of four square miles. It is not a single city, but a series of them– seven at least– super-imposed one upon the other.

"Harappa"– Hari plus Pada, the Foot of the Lord– stands at a distance of nearly 400 miles due north-west of Mohen-jo daro, in another extremely fertile belt. It is situated at the confluence of two Sakharavas– now dry beds– of the Ravi, in the Montgomery District of Pakistan Punjab. It is at a distance of about 15 miles from the District Head Quarters and nearly 4 miles from the small Railway Station of Harappa Road on

the main line of the North Western Railway. Its situation precludes all possibility of paucity of food and other agricultural produce at any time. It is evident that in its hey-day the town of Harappa was washed by the waters of the Ravi. The perimeter of the town extended to nearly two and a half miles.

Both these archaeologically lucrative sites were abundantly supplied and must have been great entrepots of commerce, as is clearly suggested by their geographical situation, and one is left wondering why they were abandoned at all. But the reasons of the final forsaking of these cities is not far to seek. The subsidence of the buildings revealed by the excavation-work at Mohen-jo-daro, in some of the strata of occupation, points to the Indus floods as a potent cause of the periodic evacuation of the city. And the finding of the costly and easily portable finds from the various strata only in limited numbers in relation to the population, also leads to the same surmise. One thing, however, is certain. The paucity of skeletal material from the cities in relation to their area, makes it clear that the people had had enough notice of the impending catastrophe, and most of them forsook the land of their birth before the final doom. Progressive desiccation, and climatic cataclysms are also suggested as potential causes of the final abandonment of these cradles of Indus Civilization. It stands to reason that with a complete change in the climate of the two cities, and their being forsaken by the river, seeking new channels to the ocean, the people may have been obliged to abandon the cities once and for all. Some scholars advocate an impending invasion by

the tribes from the hilly regions to the west, as the cause of the cities' final evacuation. Though later historical evidence of this nature may be readily available, it is hardly possible to imagine that the inhabitants of the two Indus cities had grown so weak, that without putting forth any effort in the defence of their excellent settlements, they left the cities before the enemy arrived.

At this juncture it is necessary to consider how ancient was the civilization of the Indus Valley as represented at Mohen-jo-daro, before it is detailed out. Nothing has yet been recovered from the Indus cities which may make it possible to determine the exact date of this civilization. But that does not preclude the possibility of assigning to the Indus Civilization an approximate age and antiquity. This becomes comparatively easy, since objects of peculiar Indus pattern and manufacture have been recovered from the cultural sites of the Middle East, and likewise, objects of the Middle East sites have been recovered from Mohen-jo-daro and other allied cities of the Indus Valley. In addition pottery motifs and designs and various other finds suggest a positive relationship and lively intercourse between the Indus Valley and Egypt, Mesopotamia, Crete etc., and help to assign an approximate date to the Indus Civilization. On the basis of the general similarity of culture as evidenced in the Indus Valley and the habitats of ancient civilization in the Middle East, students of history and archaeology have considered the Indus Valley as contemporaneous in civilization to Mesopotamia

and Egypt. These common features commending contemporaneity are (a) the Organisation of society in cities, (b) the Chalcolithic stage of civilization, (c) Wheel-turned pottery, (d) Kiln-burnt or sun-dried brick structures, (e) Pictographic Script, and above all (f) the developed Arts of the lapidary and the jeweller. This basis, however, cannot be considered as a positive ground of contemporaneity of the Indus Civilization to the other ancient riverine cultures. The more tangible proofs of the identity in date of these civilizations are furnished by the actual finds from Mohen-jo-daro, which seem to be importations to the Indus Valley from the Middle East countries, and the finds from the Middle East sites, which seem to be importations to the Indus Valley. From the Indus Valley sites have come to light single cuneiform letter-signs, which evidently are foreign to the region. So also are the etched cornelian beads and toilet sets of Mohen-jo-daro. All these objects trace their origin to Sumerian sites of assignable periods. A stone mace-head of peculiar shape from the Indus Valley, resembles in every detail the mace-heads from the early Sumerian sites. A pot of light green steatite, one of its compartments ornamented on the outside with a curious mat pattern found at Susa, has been dated to be 2800 B.C. Similar designs on an identical variety of stones have been found at various sites of Sumerian civilization. A steatite fragment, alike in pattern, material and colour, has been found in the lowest stratum at Mohen-jo-daro, where it seems to have been an importation. These facts have compelled Dr. Mackay to remark, "there is an increasing weight of evidence that the

upper levels of Mohen-jo-daro were contemporary with the later part of the early dynastic period of Sumer". But the volume of evidence from Sumerian sites of finds of Indus manufacture is much greater, of which the seals, indubitably of Indus Valley type and origin, found in datable levels at Ur, Kish and Tel Asmar, being the most important. Over a dozen examples of seals of Indian style and workmanship– thet ypical square shape, with the Indus pictography– have been found in strata which can be assigned to the period 2500 to 3000 B.C. This indicates the approximate age of the Indus Valley Civilization. Dr. Frankfort has recovered from Tel Asmar cylindrical seals, uncommon in the Indus sites, but with typical Indus animals viz., the elephant, the rhinoceros, the gharial, etc., unknown in Sumer. Specimens of vases from Tel Asmar, with rows of knobs placed on the surface, to decorate the middle portion of the ware, have come to light, which clearly trace their origin to the Indus Valley, where this knobbed ware was so common. In like manner, heart-shaped inlay pieces of bone– similar in shape and decoration, in shell– common at the Indus sites, have come to light from ancient cities of Upper Iraq. Beads exactly alike in material, shape and decoration, have been found at Mohen-jo-daro and the Royal Cemetery at Ur. A jar cover from Jamdet Nasr is like the one commonly used by the people in Sind even now. Certain designs on pottery, particularly the double crossed design, have been found in the Indus Valley, Mesopotamia and Egypt, and "are unlikely to have been invented independently in the three countries." Curious cones of pottery and shell, found

in the Indus cities and the Sumerian sites, and the copper terminals and necklaces, girdles etc., of Mohen-jo-daro, Egypt and Babylon, as also the bull sports depicted on pottery etc., suggest that the Indus Civilization was contemporaneous to certain early phases of civilization in Egypt, Babylon and Crete. Similarity of a variety of finds from the Indus Valley and other ancient datable cultural sites has compelled scholars of archaeology to assign the Indus Civilization to the period 3000 to 2500 B.C. The Indus Civilization is at least that much old, if not older, though there is every possibility of its being found still anterior in date. Sir John Marshall draws attention to this fact when he writes, "at the moment at which this civilization reveals itself to us, it is already fully fledged; we are bound, therefore, to postulate for it a long period of antecedent growth." And nothing has happened so far, to challenge this statement of the eminent archaeologist.

MOHEN—JO—DARO

THE LEGEND OF THE CITY

Long long ago there ruled a mighty monarch, Raja Mohan by name, noble and supreme, so it is related, at this great citadel of culture and civilization, which now stands in ruins. A more judicious and considerate a monarch than Mohan had not been known to the people. In his time, contentment reigned supreme, not merely in the royal household, but in every man's home. Agriculture throve, trade and commerce flourished, and wealth easily poured into the land of Ind. The river became the favourite resort of the commercial enterpriser, and Mohen-jo-daro, the favourite haunt of the merchant and the trader. But the days of the City seemed to be numbered. A single occurrence transformed the virtuous chief into a tyrant and debauchee of the worst order. There came to the City a rich and wealthy merchant, as renowned for his wares as for his personal charm. The queen fell a prey to his blandishments, and elopement was the natural consequence of this visit of the wealthy merchant. The nimble sail of the merchant's craft carried the pair swiftly beyond the reach of the royal blood-hounds. All efforts, therefore, proved un-availing. And when the last search-party returned without any cheering news, the disconsolate monarch had made up his mind to avenge himself. The conduct of the queen had greatly weighed on his mind. He lost all faith in woman-kind. His own consort, inspite of the best treatment, had flagrantly abused the freedom given to her by the King. Could anything be worse? In an evil

moment the King therefore decided to revenge himself on the women-folk of his kingdom, without exception. He began to practise *just primae noctus* on every maiden of his dominion. At this time the power and prestige of monarchs stood on the solid rock of Divine Right, and so this gross misconduct, not to say worse, of Raja Mohan, went unchallenged. But how long could this obnoxious practice last? Certainly not for long. In fact retribution was near at hand A time came when the daughter of the King's own sister was to wait on him. The mother could under no circumstances allow it. She implored the King, her brother, to desist from the crime, but the wicked monarch remained adamant. The despairing mother therefore sought divine intervention. She repaired to the banks of the holy Indus, and implored the River-god to come to her rescue. The God responded to the supplication of the lady and the prayers of the general population, and a voice from the waters assured the devotees of effectual assistance– on a particular dark night the City would be submerged under the waters of the Indus, and the ignominious monarch would find a watery grave. The people thus came to be pre-warned. The many who believed the Voice from the Waters left the desecrated spot, once for all, carrying whatever was valuable. Those who heeded not, paid dearly for their want of faith. The waters rose, the City went under, and the vicious monarch met the doom he richly deserved, before he could cast his lustful eyes on the daughter of his own sister. And all that remained of the magnificent capital of Raja Mohan was a mass of ruin, aptly called Mohen-jo-daro or the Mound of Mohan.

THE STORY OF THE EXCAVATIONS

The most pertinent and persistent question asked by the visitors to Mohen-jo-daro is as to how these rolling mounds of ruins were spotted as the site of an ancient civilization. And a suitable answer to the query unfolds the romantic tale of the excavations at Mohen-jo-daro. Archaeological work in Sind dates back to the days of Sir Bartle Frere, the Commissioner in Sind from 1851 to 1859, and his assistant Captain Preedy, the Collector of Karachi. But the work, until quite recently, was mainly confined either to the examination and discovery of historical sites mentioned in the Provincial Chronicles not earlier than the Hindu period starting with the 5th Century A. D. or even later, or spotting Buddhist sites in the lower Valley of the Indus, since there occurred numerous references to the ascendency of Buddhism in Sind in the Chronicles of India and the record of foreign travellers like the Chinese scholar Hiuen-Tsang. The City of Mohen-jo-daro first attracted the attention of the Indian Archaeological Department as a Buddhist site as late as 1912, when it was spotted and photographed by Dr. D.R. Bhandarkar, an official of the Archaeological Department. The site was brought under the Preservation of Monuments Act in 1916, before it was systematically explored. During 1918 to 1922 Mr. Rakhildas Bannerji as Superintendent of the Archaeological Survey, Western Circle, was engaged in discovering the twelve Stone Altars mentioned as having been erected from the Bias to the Ocean by Alexander, the Great, while on his homeward journey by

the Indus and the Ocean. The old beds of the Indus brought the fortunate archaeologist to Mohen-jo-daro, then a mere group of unattractive mounds, and he virtually tumbled on his luck. "I stumbled on Mohen-jo-daro by chance", he modestly admits. Trial trenches yielded encouraging results. The laying bare of the Buddhist Stupa revealed the necessity of further excavation. Some of the articles recovered, suggested, however tentatively, the great antiquity of the civilization. Shri Bannerji bore the glad tidings of this great discovery to his Chief at Delhi, and brought the finds, particularly the Pictographic seals, for the critical assessment of their value by his boss Sir John Marshall, the Director General of Archaeology in India, who at once perceived a great deal of sense and wisdom in this seemingly wild surmise, since Indian Historians and Archaeologists had been pretty certain uptill then that nothing anterior to the Aryan period of civilization was possible in India. The discovery of this ancient and highly developed civilization was announced to the world in order to elicit a tentative co-relationship between this civilization of the Pictographic seals and other ancient civilizations, through an official article on the subject in the Illustrated London News of 20th September, 1924. Such seals had been found from Harappa and from certain Mesopotamian sites, but nothing more tangible was available to establish a conclusive relationship. The announcement of the discovery of the Indus Civilization was but the beginning of a great archaeological affair. The Assyriologists and Egyptologists became agog at the announcement of Dr. Sir

John Marshall, and on comparig notes found that Mohen-jo-daro was contemporaneous with the 3rd Millennium B.C. cities of Mesopotamia, the seals furnishing the most reliable clue. Having thus obtained an approximate date for the Indus Civilization, the Archaeological Department of the Government of India commenced their work at Mohen-jo-daro and elsewhere, with zest and enthusiasm, till by 1931 nearly 40 acres of land had been cleared at Mohen-jo-daro, when the work of excavation came practically to a stand-still on account of several causes, financial stringency being the most potent. All the same the excavations carried out so far, revealed the various aspects of life in sufficient detail, so as to warrant a nearly complete picture of the civilized life prevailing in the Indus Valley more than 5000 years ago. Much doubt still remains to be cleared, for the Indus Script has not yet been deciphered to the satisfaction of all, and the problems of authorship and religion, society and government, still remain in the melting pot, though some generalisations on these aspects are possible, even in the present state of knowledge. During the period that the work of excavation was going on at Mohen-jo-daro, the late Mr. N.G. Majumdar, Assistant Suprintendent of Archaeology for Exploration, travelled throughout Sind, and brought to light several sites of antiquity. Unfortunately this indefatigable archaeologist became a prey to the nefarious activity of the highwaymen in Dadu District, and was brutually murdered. His archaeological reconnaissance in Sind is as important, if not more, than the discovery of Mohen-jo-daro's ancient civilization

by the late Mr. R. D. Bannerji. It was Mr. Majumdar's archaeological excursions which proved beyond doubt that the civilization of which we have such lively and abundant evidence at Mohen-jo-daro and Harappa, was not confined merely to two isolated spots, but permeated the entire lower Valley of the Indus, and regions to the westward. For purposes of easy reference and convenient delineation the excavated portions of Mohen-jo-daro have been divided into areas, each being named after the officer who carried out the excavation work in that sector:

(1) Stupa Area	Mr. R. D. Bannerji and Mr. B. L. Dhanna, under the supervision of the Director General.
(2) S. D. Area	Mr. A. D. Siddiqui.
(3) L. Area	Dr. E. L. Mackay.
(4) H. R. Area	Mr. H. Hargreaves.
(5) V. S. Area	Mr. M. S. Vats.
(6) D. K. Area	Mr. K. N. Dikshit.

ARCHITECTURE AND CIVIC AMENITIES

The most note-worthy impression created by the Indus Valley cities is that the people took a very keen interest in life, and went about the task of organising it so methodically as to yield maximum good to the maximum number. That the people believed in the enjoyment of life may be easily seen by the manner in which they laid out their cities and planned their houses. Sir John Marshall, Director General of Archaeology in India, assures us that "in one's first stroll through the city (Mohen-jo-daro) the visitor is highly impressed by its order, wealth and methodical work." An aerial view of Mohen-jo-daro makes it clear that the city was not built in a haphazardly fashion, but it had been properly planned. The city is cut up and divided by straight and wide roads running from north to south, and east to west, and the building structures flank on their sides. There is in evidence neither any deviation in the direction of the roads, nor any the slightest encroachment of public land. This suggests that the Civic Authority of the City was well respected and feared by the citizens. The roads were usually un-paved and followed fixed directions according to the direction of the prevailing winds, so that as the wind blew down a road, it could automatically clear the atmosphere by pushing out the dirty smell by its own natural force. The roads were sufficiently wide so as to facilitate traffic, and at the same time make easily possible the clearance of rubbish etc., and maintain the city in a neat and sanitary condition.

The widest road so far laid bare is 35 feet wide. The average width of the roads at Mohen-jo-daro was about 9 feet, and the by-lanes were never less than 5 feet in width, so as to allow easy cross traffic. This town-planning is a unique feature of the city-sites of the Indus Valley Civilization. No other town of the civilized world of of that period has yielded evidence of such a complete system of Town Planning. The city of Mohen-jo-daro was so well laid out and so methodically built as to create on the visitor's mind the impression of a modern working-day town. Such indeed was the impression gained by the Director General of Archaeology in India, in his first stroll through the city.

Apart from town-planning, the building structures at Mohen-jo-daro boast of being equipped with all the amenities of a modern house–sitting and sleeping apartments, store-rooms, domestic quarters, an ample court-yard, a full complement of out-houses, and above all, a system of water-supply and underground drainage. The buildings could be furnished with all this variety of facilities because they were properly planned. The buildings at Mohen-jo-daro were built in blocks, and could be conveniently distinguished either as residential quarters or as business premises. In some structures, situated along the main thoroughfares, rooms were arranged in a pattern different from the normal plan usually followed, evidently suggesting a different use for them from the merely residential. The situation and nature of planning of some of the structures warrant their being used for business purposes, some of which were pre-eminently suited to serve as restaurants or

refreshment houses, providing tea and similar beverages. The buildings so far excavated in the cities of the Indus Valley are ground floor structures only, though substantially built stair-cases, in some cases, lead to the terrace. In the absence of any upper-floor structures being found intact, it is difficult to assert, in the present state of knowledge, that the Indus Valley people were conversant with storeyed structures, though stair-cases leading to the roof and the use to which the terrace was put, do not rule out such a surmise.

Among the building structures at Mohen-jo-daro may be seen single-room tenements in contrast to palacial structures. But all the houses, irrespective of the area of occupation, were planned round a court-yard. The court-yard served a very useful purpose at a time when the climate of the Indus Valley was surcharged with far more humidity than it is now. Almost all the house-hold work was done by the women-folk in the court-yard. The finding of saddle-querns and pounding stones etc., in the court-yard leads to such a surmise. The living rooms of the family were situated on the farthest side of the cour-yard, to the right of which stood, in a row, the store-rooms of the house, parallel to which, and to the left of the living rooms, were the kitchen, the bath and other out-houses. The rear side of the court-yard quadrangle was taken up by the outer-door, leading into the tenement, to the right of which and parallel to the living rooms, stood a small room accommodating the house well (from which the family drew its water-supply) and the quarters for the domestics of the family. The rooms of the building structures at

Mohen-jo-daro were regular in their shape, square or rectangular, well sized and well ventilated. The walls were plastered usually on both sides, on the inside in any case. In some houses single door-less chambers have been found, which either stored the wealth and riches of the family, or provided a decent burial-ground for the little darlings of the family, who passed away early in their infancy. That this was so, is suggested by the finds from such rooms. These rooms were entered into by a staircase laid against the wall, which did not reach the roof. The houses at Mohen-jo-daro were provided with flat roofs. The terrace was used for sleeping purposes at night in the dry and hot season. Each tenement was equipped with an internal underground drainage system, highly evolved and efficiently worked. Each house had one or more apertures which met the street drain, thus connecting house-drainage with the city's drainage scheme.

The buildings at Mohen-jo-daro, though they lack external embellishment, are noted for the excellence of their construction. The builders were conversant with all the economies and intricacies of their craft, and used them judiciously, producing building structures which would do credit to any contemporary craftsman anywhere. All the buildings at Mohen-jo-daro were bare red brick structures, since no better or costlier building material than the burnt brick was available in the Indus Valley at the time. The use of burnt bricks even in the tenements of the poorest section of the population has led some scholars to believe that it bespeaks wealth. The use of the burnt bricks may also

have been determined by the climatic conditions prevalent at the time. Though the people of the Indus Valley were conversant with a variety of shapes in bricks, as may be seen in the building of wells etc., at Mohen-jo-daro and elsewhere, the regular rectangular bricks were in common use. They were usually "twice as long as wide, and half as thick"– ten inches long, 5 inches wide and 2 1/2 inches thick. These beautifully proportioned bricks of the Indus Valley were made of the Indus clay. They needed no further binding material like straw etc. They were uniformly fired, and thus acquired quality and colour. "The bricks of Mohen-jo-daro", says Dr. E. Mackay, "would be a credit even to a modren brick-maker." The people also knew the sun-dried bricks, but they were used only for the un-exposed parts of the structures, so as to remain unaffected by the elements, and yet answer the purpose of the superior and costlier stuff— the burnt bricks. The masons of Mohen-jo-daro utilised three different cementing materials for the bricks, each being used where it was best suited. Ordinarily mud-mortar was used as the binding material, but when the walls were thin and high, to the mud mortar were added lime and gypsum, to add to its strength. And whenever there was a possibility of water percolation, bitumen was commissioned into use as an efficient damp-proof.

The walls of the houses at Mohen-jo-daro were usually thick (4 to 5 feet thick) and rose to a considerable height. The thickness of the walls was filled-up with rubble or sun-dried bricks, only the external encasement being of burnt bricks. The sun-dried bricks were

also used in the laying of foundations, and in the packing of terraces, and this economy was so carefully practised as not to impair either the strength or the durability of the structures. The bricks were usually laid in the English Bond method– a course of headers, being succeeded by a course of stretchers. The roofs of the houses were flat, and were laid on wooden beams. They consisted of reed-matting overlaid with mud, the coherence of the mud being ensured by the admixture of glumes and husks. In the case of large halls, the roof was further supported by the erection of pillars, square or rectangular in shape, the round column being unknown in the Indus Valley then. Only a solitary instance of a tapering pillar 3 feet square at the base, narrowing to 2 feet 6 inches at the apex has come to light at Mohen-jo-daro. Lime-stone rings of gradually varying diameter and thickness recovered in quantity at Mohen-jo-daro, suggest that they were threaded on narrow poles, to form pillars to support the roof. The flooring of the houses was done either in beaten earth or sun-dried or burnt bricks, depending on the size and nature of the structure. The doors and windows of the houses were of the simplest pattern, as may be surmised from their sockets, the objects having entirely perished. Though the walls of the houses on the inside stood straight and upright, at right angles to the floor and the roof, they had a slight batter on the outside, presumably to allow rain-water to flow down them quickly, and in no way adversely affect them. Special care was taken to lay the floors of the houses at Mohen-jo-daro. This may particularly be noticed in the laying of bath-room floors, where sawn bricks were

carefully laid, and the floor was spread with brick-dust and a coating of bitumen, to avoid settlement of the foundations, as a result of the infiltration of water. It all indicates that the masons of Mohen-jo-daro bestowed the utmost care on the work they undertook.

The bare red brick structures of Mohen-jo-daro and other contemporary city-sites of the Indus Valley, 'more than atone for their plain-ness, by the excellence of their construction'. It cannot be dogmatically asserted that the building structures of the Indus Valley were absolutely devoid of embellishment at the hey-day of their glory, though at the time of their excavation they undoubtedly presented a picture of stark red monotony. But that the buildings should have stood the test of time for the past 5000 years, speaks highly of the solidity of their construction and the durability of the materials used. In spite of their plain-ness, some of the buildings at Mohen-jo-daro are highly imposing, by virtue of their substantial size and the care bestowed on their construction, to make them worthy of the use to which they were to be put. The building structures of the area ultimately occupied by the Buddhist Stupa are particularly impressive. Among them the most interesting edifice is what is commonly called the Great Bath. This huge structure measuring 180 ft. by 108 ft. on the outside, considered by some to be "a part of a vast Hydropathic Establishment", housed in its bosom a swimming bath 39 ft. long, 23 ft. broad, and 8 ft. deep, provided with two flights of steps for the convenience of the bathers. The verandahs and galleries all round the Bath, and the halls and rooms surrounding them,

immensely added to the utility of the structure. The well-laid burnt brick floor, and walls of the Bath, backed by a thick course of bitumen, supported by walls of sun-dried bricks, finally encompassed by a thick burnt-brick rectangle, made the structure thoroughly water-proof. "A more effective method of construction, with the materials then available, would hardly have been possible." The swimming pool boasted of a highly effective and independent system of water-supply, and its disposal. Its astonishingly well-preserved condition at the time of its excavation, confirms the belief that the builders of Mohen-jo-daro put to the most effective use the building materials at hand, and that they were conversant with all the intricacies of their trade, so that they were able to erect solid and lasting structures, which would indeed be a credit even to a modern builder.

Apart from Town-planning the Indus Valley Civilization boasted two other note-worthy civic amenities, those of Water-supply and underground Drainage system. It is true that every good-sized house at Mohen-jo-daro had a well of its own, to supply the inmates with ample water, but there were many more houses which couldn't afford this great convenience. The situation of the room housing the well in large structures, just near the outer door, suggests the surmise that the affluent section of the population permitted their less fortunate brethren to fetch water from their wells, without endangering their own privacy. A good quiet neighbour could easily fill his pitcher from the well in the room near the entrance, without in any way disturbing the inmates of

the big house. But it cannot be definitely asserted that the less fortunate inhabitants were invariably left at the mercy of the richer-folk for their water supply by the Civic Authority of Mohen-jo-daro and other allied cities in the Indus Valley. There is considerable evidence of the existence of public wells erected in the cul-de-sac between houses. As an additional convenience in the case of some of the public wells, benches were provided along the wall-side of the houses, for those awaiting their turn to fill their pitchers of water. The wells at Mohen-jo-daro were carefully built, circular or oval in shape, with varying diameters ranging from 1 1/2 feet upwards. Some of these wells are still in working order and provide cool and refreshing water.

The Drainage System of Mohen-jo-daro is another unique feature of the Indus Valley Civilization. It is the most complete and efficient system known to the ancient world. The Civic Authority extended its helping hand, in regard to maintaining a sanitary condition in the city, to even the poorest among the population, and hence Mohen-jo-daro was "better drained than Ur or Athens". Drains carefully built, in moulded or dressed burnt-bricks, on an average two feet below the level of the road or the street. They ran along the sides of the road and were provided with substantial covers. Each house had its own internal drainage arrangement, and was connected with the main Drainage System by one or two apertures with the street drains. At convenient points soap-ways and man-holes were provided, to allow the drains to be periodically cleaned. Ordinarily the house-drains emptied themselves into the

street drains, which in turn discharged their contents into the road-drains. At all points where the street drains met the road drains, large and deep brick pits were provided, with holes in their floors, for the easy disposal of the fluid by percolation, the rest being removed by the city's sweepers. In addition to these arrangements, large culverts drained out what was not absorbed by the soak-pits and removed by the city-sweepers, far out of the city. However, in some cases individual houses were unconnected with the street-drains, and were equipped with either pottery receptacles or well paved brick pits, with holes in the floor, for fluids to percolate through, and the rest removed by the house sweeper. Private and public dust-bins at convenient points, completed the conservancy arrangements of the Civic Bodies of the Indus Valley cities. Rubbish heaps have been found outside the city, though not so far out as modern sanitation would require. Likewise the soak-pit system of drainage disposal as obtaining at Mohen-jo-daro does not compare favourably with the system of soak-wells obtaining at Taxila, though it does enjoy the advantage of easy access for cleaning, and avoids the possibility of the choking up of the drains. "Indeed there are unmistakable signs on every hand that the question of conservancy was one of the prime concerns of the Civic Authority".

The Town-planning, Water Supply and Drainage schemes of Mohen-jo-daro indicate the existence of an advanced type of civic organisation in the IndusValley cities, and affirm that the people had greatly appreciated

the value of co-operative living. Indeed it would but be fair to agree with Sir John Marshall, when he points out, "We are justified in seeing in the Great Bath of of Mohen-jo-daro and its roomy and elaborate system of drainage, evidence enough that the ordinary towns-people enjoyed here a degree of comfort and luxury unexampled in other parts of the then civilized world."

FOOD, CLOTHING, and PERSONAL ADORNMENT

Next to the organisation of civic life, the people of the Indus Valley attended to their problem of food clothing and personal adornment, with as much, if not greater, lively enthusiasm. It is true that in the absence of agreement among scholars on the decipherment of the Indus Script, not much could be said on this purely personal aspect of the life of the people; but enough articles have come to light from the Indus Valley sites, particularly Mohen-jo-daro, which afford a fairly reliable picture of the situation. Some ears of corn in a carbonised state, and fruit stones recovered from the Indus sites suggest that wheat, barley and dates formed the staple food of the Indus people five thousand years ago. Fish-bones and hooks, and the bones of the Ghariyal, the turtle and the tortoise found in sufficiently large quantities, indicate that at least a section of the population were accustomed to non-vegetarian food as well. It is reasonable to suppose that the people must also have utilized vegetables and fruits for food purposes in the Indus Valley. Above all, looking at the very fine and robust breed of bulls and buffaloes on the seals from Mohen-jo-daro, it is reasonable to presume that milk and its products too must have formed an important item in the dietary of the people of the Indus Valley. The pictures on the seals extensively recovered from Mohen-jo-daro, Harappa etc. point to the fact that the humped bull, the short horned humpless bull, the buffalo, the sheep, the dog and the elephant

had been domesticated by the people of the Indus. That the oxen were used for draught purposes in the Indus Valley is proved by their being found yoked to toy-carts recovered from Mohen-jo-daro. The horse is conspicuous by its absence in the Indus Valley cities. But the abundant evidence of the humped bull amply suggests that the Indus Valley was rich in this fine breed of cattle, which is closely allied to, if not identical with, the magnificent white and grey breed still common in Sind, Gujerat and Rajputana. "To what a pitch these magnificent creatures had been bred at this remote period may be gauged from the life-like engravings of them on the seals recovered from Mohen-jo-daro."

That the Indus Valley people must have devised some garments for their use, is not difficult to presume, looking to the advanced state of their civilization. All the evidence regarding dress is adduced by the statuary recovered from the Indus Valley Cites. Though the statuary, which is of significant importance in this regard, is quantitatively limited, it definitely indicates that the people wore un-tailored, single piece garments five thousand years ago. The men-folk used a dhoti for the lower part of the body and a shawl for the upper; and the women, a sari and a short upper piece. The dhoti, like the sari, was worn close to the skin, while the shawl, with corded or rolled over edge, was worn loose over the left shoulder and under the right arm, affording freedom of movement to the right arm. The spinning-whorls of the Indus Valley suggest that the people were conversant only with cotton fabrics, unless they imported silks and woollens from out-side,

regarding which there is at present no tangible evidence. In fact Rev. Heras's interpretation of the Indus Script also indicates that the Indus Valley people five thousand years ago did not know much of woollens, since they measured cold in terms of cotton garments— "it is three garments cold". The people of the Indus seem to have developed some aesthetic sense about their dress, and relieved the monotony and plain-ness of their garments by resorting to embroidery, as is borne out by the statuary from Mohen-jo-daro. Some of the statuary from the Indus Valley sites would suggest the practice of nudity, but confirmatory evidence in this regard is sadly lacking.

The Indus Valley people stand distinguished by an extensive use of all variety of ornaments. That the rich and poor alike, both men and women, revelled in the use of ornaments is evidenced by the varied materials out of which the ornaments were manufactured, to suit all pockets. The ornaments recovered from Mohen-jo-daro are made of gold, silver, copper, electrum, shell, bone, bronze, faience and even pottery. Shell was particularly popular for the large number of bangles with which the women-folk of the Indus adorned the entire length of their arms. Copper and bronze were extensively used particularly for making spacers and terminals for the strings of beads, of which the people were particularly fond. A fan-shaped head-gear with pannier-like erections on the sides, for the head; the ornamented fillet for the forehead; ear-rings and ear-tops for the ears; necklaces, pectorals, bead-stringed ornaments (of 3, 5 or 7 rows) worn close to the skin, for the neck; rings for the

fingers; bracelets, armlets, gold, shell and pottery bangles for the arms; the girdle for the waist; and anklets for the ankles were the popular ornaments of the Indus Valley people five thousand years ago. Fillets, necklaces, armlets, and ear and finger rings were commonly worn by both sexes, while the rest of the ornaments were used only by the women-folk.

A detailed examination of the jewellery hordes unearthed at Mohen-jo-daro indicates some highly interesting features of the ornaments used in the Indus Valley. Some of the ornaments, particularly the necklaces, the bracelets, the bangles and the girdles stand out conspicuous on account of their intricate patterning, the excellence of their technical skill and the highly developed taste of the people. It is significant that the people of the Indus Valley were particularly fond of beads, as is indicated by their extensive use in the ornaments recovered from the Indus sites. Nearly thirty different precious stones were pressed into service, cut into thirty different shapes, to suit and satisfy the varied tastes of the inhabitants. And yet that seems not to have been enough. Specimens, simulating valuable types, but made of cheaper materials, have also come to light. "A barrel-shaped bead only .49 inch long, was made of five alternate segments of red cornelian and white or blue chalcedony, so carefully joined together that its compound character may never have been noticed, had it not fallen to pieces in the copper canister, in which it was found." The precious stones used in the ornaments of the Indus Valley were "carefully selected for their colour, as well as for the regularity of their markings."

A "singularly beautiful necklace was made of soft green jadeite beads with discs of gold in between, producing the effect of bead and reel moulding, with pendant drops in front, of agate jasper". Fortunately the jade and gold have lost little of their original beauty, and offer an excellent example of the sense of colour possessed by the people in those far off times. Equally remarkable was the six-stringed bracelet of globular gold beads, with hemispherical gold terminals at the ends, the bead rows being separated by flat gold spacers. Its "simplicity and accuracy of construction make the bracelet an admirable piece of work". The barrel-cylinder bead girdle bears ample testimony to the high grade craftsmanship of the Indus jeweller. The three feet four inch long girdle is made of six rows of translucent red cornelian beads, each five inches long, and separated from the one following by spherical bronze beads and bronze spacers pierced with six holes for the strings. It is of particular importance to note that the people in the Indus Valley were not merely interested in wearing aesthetically perfect ornaments, but they bestowed a legitimate and lively care on their preservation as well. The ornament-hoards from Mohen-jo-daro were found in jars and vase like metal vessels or boxes (of silver, copper etc.) with lids complete. And some o the jewellery boxes were kept wrapped-up in cloth, so as to avoid exciting the cupidity of an evil intruder.

The last though not the least important item of personal adornment of the Indus Valley people was their use of cosmetics. The statuary from the Indus Valley sites bears ample testimony that the people preferred

a large variety in the arrangement of their hair, as suited the individual. But without exception the hair were worn long and were invariably neatly kept. The hair were usually ringleted at the ends, and were kept tidily in place by a fillet worn on the top of the forehead, and tied at the back of the head. Sometimes the hair were tied in a neat knot or chignon at the back of the head, which was kept in place by hair-pins etc. The hair were invariably combed, and sometimes small combs were worn as hair adornments, just above the chignons, quite handy for use in an emergency. The reclamation of a carved ivory comb from Mohen-jo-daro confirms this belief. There is no evidence that the Indus Valley men-folk were ever clean shaven. They invariably wore their beards, some at full length, and others short and cropped. But they usually shaved their upper lip, like the people living in the mountainous regions to the west. Apart from the simple and natural ways to appear neat and trim, the Indus people also resorted to the use of cosmetics to enhance their personal charm. The unearthing of a very large number of tiny kohl pots and jars, suggests the universal use of collyrium or antimony sulphide, the black beauty substance of the eyes, in the Indus Valley. It aided eye-sight and served as a sound recipe for eye-beauty. The finding of carbonate of lead, cinnabar and pinkish and reddish substances arranged in cockle-shells, tiny pottery jars etc., and toilet tables afford enough evidence of the pains the people in the Indus Valley took to make themselves presentable in society. The art of the Max-Factor seemed to have enjoyed its legitimate place in the Valley of the Indus five thousand years ago.

AMUSEMENTS

An interesting aspect of the Indus Valley finds is the considerable light they throw on the pastimes and amusements of the people. The large number of toys, objects used in games, and statuary indicate the manner in which the Indus Valley people invested their leisure hours. The most common pastimes of the children seem to have been modelling in clay and playing with toys. Toys of various kinds have been recovered from Mohen-jo-daro, made of different materials like ivory, agate, onyx, stone, shell and pottery. Among the toys the toy pottery-carts enjoyed a pre-eminence, to judge from the specimens found. These miniature carts are indentical in shape and design to the farm-carts in common use in the district round Mohen-jo-daro at the present day, and bear ample testimony to the use of the full-sized vehicle in the Indus Valley at that remote period. Some of the specimens of toy-carts are surprisingly complete in every detail, with the oxen yoked to them, the driver in his seat, with the whip ready at hand, and the pent-roof canopy. Next in popularity to the toy-carts came rattles and whistles. They were of substantial make, gaily decorated, with pedestal like bases, and in the form of some bird, usually the dove. When blown into the hole at the back near the tail, they invariably produced a shrill whistle. Marbles also seemed to have enjoyed considerable popularity in the Indus Valley, as is shown by the large number of them recovered from Mohen-jo-daro, some of them made of such hard stones like agate and jasper. More ingenious among the toys of the Indus Valley were those with

moving limbs, like the bull with the nodding head, and the monkey with moving arms. Numerous specimens of models of human beings, animals and birds, and household articles like the baking pan etc., crudely made,– surely the work of children,– have also come to light at Mohen-jo-daro, suggesting clay-modelling as a common and popular pastime of the children five thousand years ago. For the grown-ups games at dice seem to have been the favourite, since dice both cubical and tabular, of excellent workmanship and materials both costly and cheap like ivory and pottery, have been unearthed in considerable numbers at Mohen-jo-daro. The cubical dice of the Indus Valley are just like the modern European dice, except that they differ in their markings– where 1 is opposite to 2, 3 to 4, and 5 to 6, in contrast to the European system, where the total of the opposite sides is invariably 7. The exquisite models of dancing girls in bronze, complete in every detail, and other evidence from Mohen-jo-daro suggests that the adults of the Indus Valley revelled in dancing, game hunting, bird fighting, etc. All in all the Indus Valley people had provided themselves with ample amusements to pass their leisure hours, at that remote period in history.

CRAFTS AND INDUSTRIES

The extensive building activity, the elaborate civic amenities, and the universal attention bestowed on personal adornment, in such abundant evidence in the Indus Cities, pre-supposes a solid economic base to the highly elegant super-structure of civilized life in the Valley. With a soil enriched by natural mineral ingredients brought down by the Indus in the course of its meanderings through the mountains, the most common human activity in the valley was of course agriculture. In the present state of the evidence at hand, the Mohen-jo-daro people raised mainly wheat, barley and cotton. They were conversant with Triticum Compactum and Triticum Sphaerococcum types of wheat and Hordeum Gare quality of barley. That cotton too was locally grown in the Indus Valley is suggested by the finding of spinning-whorls invariably from every house at Mohen-jo-daro. It can not be ascertained in the present state of knowledge if the plough had replaced the hoe in the Indus Valley at that remote date. But that the produce from land was prolific in the valley even then, is affirmed by the output of the crop from a semi-charred ear of wheat from Mohen-jo-daro, reproduced by the S. P. G. School at Umedpur. The circular grinding-stone had not as yet been invented, and hence the saddle-quern and the muller sufficed for the purpose of grinding corn in the Indus Valley. That vegetables and fruits too must also have been extensively grown in the Indus Valley may be easily presumed, though positive proof thereof, except in the case of dates, may be lacking. It is a noteworthy fact that the people in the Indus Valley

had developed an excellent breed of horned cattle, as is borne out by the full blooded animals like the bull, the buffalo etc., depicted on the seals from the Indus cities of five thousand years ago. It is therefore very likely that the Indus people had built-up an extensive dairy-farming industry. Of the varied crafts and manufactures of the Indus Valley, the prime of place is claimed by the Cotton Textile Industry. Sind or the lower valley of the Indus has enjoyed great fame since times immemorial for the export of her cotton fabrics. The cotton textiles of the Indus Valley immortalised the land of their origin when they came to be called "Sindhu", "Sindon", "Sendal", "Sadin", "Sendatus", "Satin", etc., in countries like Mesopotamia, Palestine, Egypt, Greece, Rome and elsewhere. The evidence that spinning was universal at Mohen-jo-daro has already been adduced. A few scraps of a woven fabric, preserved by the patina formed on a silver jar containing ornaments, have come to light at Mohen-jo-daro. An exhaustive examination of these pieces by the technological experts of the Indian Central Cotton Inquiry Committee revealed the already anticipated surmise that the fabric was well-woven and was made from true cotton, confirming the belief that the Indus Valley people were well versed in the manufacture of cotton textiles so long ago. This evidence boldly extends to the Indus Valley its celebrity in cotton textile manufacture at so remote a date, and seems to confirm the the surmise of Lassen and Wilkinson that the Egyptian mummies were wrapped in muslins imported from India. The weaver has been termed ETKALI by the Indus

people, according to the decipherment of their script by Rev. Heras. The ETKALI in the original Dravidian languages stands for the spider. If the Indus weaver was called the Etkali, as is surmised, his web must have been as rich and fine as that of the spider itself. This would indicate the high standard of proficiency that had been attained by the producers of cotton textiles in the Indus Valley during the flourishing period of Mohen-jo-daro.

Next in importance to the production of textiles in the Indus Valley was the craft of the jeweller. The ornaments actually recovered from Mohen-jo-daro and elsewhere in the Valley bear eloquent testimony to the high technical skill attained by the jeweller, and the refinement in taste by the wearer. The ornaments bring out in a wealth of detail the skill of the manufacturer by the intricacy of their designs and their excellent execution, as also by their perfect finish and polish. It is these persistent qualities in the ornaments of the Indus Valley which compelled so experienced an archaeologist like Sir John Marshall to admit that "the gold ornaments are so well finished and so highly polished that they might have come out of a Bond Street jeweller's, rather than from a house of five thousand years ago".

The ornament hoards from Mohen-jo-daro indicate the partiality precious stones enjoyed at the hands of the population. The highly fastidious taste of the Indus Valley inhabitants gave rise to the Lapidary's art. The fondness of the people for beads of varied shapes and various colours compelled the lapidary to acquire both skill

and efficiency of a high order to satisfy local as well as foreign demand for his products. The Indus Valley people used beads of such varied hard and soft stones as the red cornelian, the green jadeite, jasper, and steatite, agate and onyx, amazon stone and lapis lazuli, quartz and turquoise in their ornaments. And these stones appear in such a vast variety of shapes. At least thirty classified types have so far been recognised. And yet, seeming not satisfied, the lapidary resorted to the simulation of well marked and valuable specimens, to suit varying pockets. Etching on beads was also resorted to, to enhance both variety and beauty of the beads. The etched cornelian seems to have been greatly prized in the Valley. The shaping of the beads, specially those from hard stones, required considerable skill at the hands of the lapidary, particularly while seeking the natural veining of the stone in as regular a position as possible. The boring of the beads, particularly the long ones, called for far greater skill and accuracy than that involved in the other processes of bead manufacture. Care had to be taken to polish the interior of the beads, so that no white marks marred the natural beauty of the semi-transparent stones. Let it be said to the credit of the Indus lapidary of long ago, that he had acquired an unique proficiency in his art to earn the high compliment of a scholar and archaeologist like Dr. E. Mackey, that he had attained "a very high stage of craftsmanship". The Indus lapidary's products found an easy market also in the outside world, as is attested by the finding of beads of Indus manufacture from Mesopotamian and other sites of contemporaneous antiquity. It

appears that Chanhu-daro, near Nawabshah in Sind, was the bead manufacturing centre of the Indus Valley, as this site has yielded not only a great many finished beads, but also many others at various stages of their manufacture, as also bead-blocks, drills, stone-moulds etc., used in the craft.

Side by side with the lapidary's art may be considered the proficiency of the workers in stone in the Indus Valley five thousand years ago. In the absence of any carved stone-work of a purely ornamental nature, and but for the simple shallow bowls of stone recovered from Mohen-jo-daro, the assessment of efficiency and skill of the Indus Valley stone-worker has perforce to be confined to the saddle-querns and the weights. The typical Mohen-jo-daro saddle-quern, having a pronouncedly convex base, helping it to be set firmly in the ground, was made from a hard and gritty stone, well suited for the purpose for which it was used. The stone weights were in common use at all the sites of the Indus Valley. They were usually made of carefully polished and sometimes of veined chert, fine grained and hard enough to defy ordinary wear and tear. Alabaster and limestone, quartzite, slate and jasper were other types of stones used in the weights manufacture in the Indus Valley. The most usual form of the weights was the cube, and the weights varied from minute specimens, which could only have been used by the jeweller, to those weighing as much as 275 grammes. Some of the smaller weights were barrel-shaped. The heavier weights were either spherical—with a flat top—or conical, with a rim at the apex or a hole at the top, to facilitate

their easy lifting. The people were also conversant with pebble weights. The sequence of the ratio of the Indus weights appears to have been binury in the initial stages and became decimal later. From the considerable quantities of weights recovered from Chanhu-daro, in central Sind, it would appear that this township was the Valley's chief centre of weights manufacture.

Coming to metal-working at Mohen-jo-daro and other allied cities of the Indus Valley, it is of importance to note that the Indus people had not as yet known the metallurgy of iron., since no objects of iron have come to light from the Valley. But that they were fully conversant with the working of copper and bronze, and the processes involved in them, is affirmed by quite a large number of metal objects, mainly utensils, tools, and implements, recovered from Mohen-jo-daro and elsewhere in the Valley of the Indus. From the objects unearthed it is evident that the people of the Indus basin had known the secret of making bronze, and preferred that alloy for objects requiring keen edge and fine polish. Both casting and hammering processes were employed in manufacturing articles from bronze. The model animals like the fine specimen of the buffalo in bronze, bear out the fact that the *cire perdue* process of casting was practised at Mohen-jo-daro, though evidence is not wanting that sometimes the figures were cast direct in a mould. Riveting was preferred to soldering in the case of metal objects at Mohen-jo-daro, though soldering enjoyed a preference in gold and silver in effecting joints. But in some cases both riveting and soldering were done to secure better joints, as

is borne out by some of the objects unearthed from the Indus Valley. That the people of the Valley were conversant with the use of high grade bronze is proved by the oxidized objects from Mohen-jo-daro, the oxidization consisting of a substantial core of white stannic oxide, enveloped in a coating of red cuperous oxide. In spite of the extensive knowledge of the working processes of copper and bronze possessed by the Indus people, the objects so far recovered do not indicate any marked proficiency or skill in metal working in the Valley of the Indus. The metal utensils are extremely simple in shape and follow the pottery models, and are devoid of all ornament or embellishment. Nor can much be said commending the metal tools and implements from Mohen-jo-daro., particularly when they are compared with similar objects from other contemporary cradles of civilization. It is however not possible to be very dogmatic on venturing such opinions in the light of some excellent specimens of metal-wares from Mohen-jo daro like the bronze saw, a more efficient tool than which had not been known before Roman times.

The Indus Valley inhabitants had attained considerable skill and ability in the manufacture of articles of Shell. The whole of the shell was utilized,— the walls for the manufacture of bangles and the columella for producing beads and in-lay work, and in the manufacture of animal heads, like those of the bull, etc. The utilization of the columella, particularly in fretting out designs from it, was a difficult task, considering the brittleness of the material in hand, requiring great skill and efficiency.

That the art of glazing was profitably practised at Mohen-jo-daro, though no true glass has so far come to light, is proved by the glazed objects unearthed at the Indus Valley metropolis. The people of Mohen-jo-daro utilized faience and other vitrified pastes in the production of their glazed articles like beads, amulets and miniature vases. The excellence and proficiency attained in this art are brought out by a bead covered with two glazes—brown and white. Apparently the bead seemed to be made of true glass, but a closer and detailed examination revealed its pottery base, neatly covered with a thick coat of the two glazes. Incidentally the glazed articles from the Indus Valley are the earliest examples of the art so far recovered, and suggest that the art may well have originated in the Indus Valley, in the absence of any contrary evidence.

The potter's craft seems to have been the most popular craft of the Indus Valley five thousand years ago, as is suggested by the very large number of pottery articles recovered from all the Indus Valley sites. Domestic articles and ornaments, as also toys of pottery abound at Mohen-jo-daro, Harappa and other prehistoric sites of the Valley. The Indus Valley pottery was wheel-made and well made. It was delicately shaped, artistically designed, and uniformly fired, so that in first class work the pottery finds from Mohen-jo-daro boast "the sheen, colour and appearance of Chinese lacquer". The Indus clay, tempered as it was with sand, provided the potter with an excellent material, which he moulded into shape like an artist, on his wheel. The mould when dried was coated with a thick opaque slip of red

ochre, to fill-in the pores and decorate the article. The lustrous slip dried and the surface carefully polished with a pebble or bone, the article was ready for further embellishment by the drawing of designs on the outer surface in black. "Straight and angular shapes were the exception, and graceful curves the rule" in the Indus pottery. The designs ordinarily consisted of foliate and geometrical patterns, among which the interlocking circle, vase, bangle, comb, and scale motifs being the most striking. The very large storing jars were however ornamented in a simple and yet effective manner with broad horizontal bands in black or reddish black, set in couples, filling up the whole of the upper surface. The pottery of the Indus Valley stands distinguished by "the bold and careless freedom of its patterning". The potter's product was now ready for the final lap of its process before it would be put up in the market. The heating in the kiln was so well controlled, in spite of the wood fire used in the process, that almost all the pottery turned out into beautiful black on red, highly burnished articles, efficiently fired without exception. The Indus pottery was extremely varied both in shape and size, ranging from tiny Kohl-pots for the toilet of dainty damsels, to huge jars capable of containing large quantities of grains. The pottery objects of the Indus Valley boast a rich variety of domestic utensils, toys, ornaments etc., not to speak of spindle-whorls, flesh-rubbers, cake-moulds, traps, and drain-pipes fitted with spigot and faucet joints. Polychrome, incised and glazed wares have also come to light at Mohen-jo-daro, but they are rather rare.

"Polychrome by the rare stylishness of its colouring—vermilion and black, on a ground of cream—, the glazed not only by being the earliest example of its kind found so far, but also because of being a singularly fine fabric in the bargain, with the appearance of almost an opaque cream coloured glass with purplish black markings, are strikingly interesting". Dr. E. Mackay has ably summed up his opinion on the Indus pottery thus: "The shapes of the wares are very varied and the technique advanced; indeed the specimens are without exception, obviously, the work of a people trained in a long and well established craft". Though much of the pottery of the Indus Valley may appear mechanical and mass produced, it can on no account be dubbed as primitive; and judged by its finer specimens it was certainly excellent and distinctive.

COMMERCE

The general impression created by the urban civilization of the Indus Valley postulates an extensive and flourishing commerce, whose bumper returns made possible and sustained such a highly evolved civilized life in the Valley five thousand years ago. But the details of this commercial activity are lacking at the moment. Boats for river traffic and sea navigation were of course known to the people. The pivotal position of the Indus Valley in which lines of commercial communication between Asia and Europe converged, is also worth appreciating A lively commercial contact with Mesopotamia has been established on the basis of the finding of articles of either side in the contemporary sites of the other. The affinities established between the objects found from the Indus Valley cities and those from other ancient civilization sites, and the foreign influences borne out by the Indus finds indicate commercial intercourse of the Indus Valley with Egypt and the Aegean in the Far West, and Burma and China in in the Far East. Besides these extensive commercial connections, based on indirect evidence mainly, it is hardly possible to assess the extent or value of the Indus Valley trade with the outside world at so remote a date. But the possibility of a flourishing commerce cannot be denied, though further direct proof in this regard is called for, to corroborate what has merely been surmised and suspected from internal evidence.

ART

The severly plain red brick building structures of the Indus Valley cities, devoid as they are of the simplest ornament, have led scholars to the erroneous belief that the Indus Valley people were strictly utilitarian in their outlook and had accordingly developed no artistic taste and produced no pieces of art. The extremely limited and circumscribed archaeological excavation of the Indus cities has naturally produced no extensive evidence on art in the Indus Valley. But the highly developed aesthetic sense evidenced from the Indus jewellery belies the hasty conclusion at which scholars have arrived, based as it is on the bare brick buildings. The limited statuary, human and animal, in stone or metal, and the innumerable steatite seals bearing engraved designs, afford enough and wholesome impression of Indus art, in spite of the paucity of more numerous evidence.

Among the human statuary the steatite figure of a male, and the bronze specimens of the dancing girl are sufficiently indicative of the artistic genius of the Indus people. The steatite bust from Mohen-jo-daro depicts realistically and with imagination a male figure neatly groomed and attired. The well chiselled features of the object; its sight fixed on the tip of the nose; its well arranged hair, parting in the middle and well secured by a fillet ornamented with a circular buckle hanging from it on the centre of the forehead; its short cropped beard and the upper lip shaven; its delicately worn shawl, embroidered with trefoil designs interpersed

with circles, so worn over the left shoulder as to leave the right arm free for easy movement, excellently depict a personage of high rank, and it must have called forth considerable skill and imagination on the part of the artist to execute such an assignment at so remote a date in human history.

The bronze statuette of the Dancing Girl from Mohen-jo-daro has excited greater admiration than the statue of the male. When the Indus model of the Dancing Girl was on view at the English metropolis, the well known English author H.N. Brailsford, like his countrymen, grew rapturous over it. He wrote: "The Dancing Girl from Sind has come to London, where she awaits the recognition of her merits. Her poise declares a provoking indifference. It had become a habit with her, since first she learned in her daring nakedness to face men's eyes. 'A fig,' she seems to say, 'for your applause. It is for my unveiled body and not for the grace of my steps and the rhythm of my song'. She stands with pouted lips, right hand on hip, and her head with its tangle of braided hair is set at an angle of challenge and derision. Slender she is to excess, but there is a lithe beauty in the lines of her back that stirs the imagination and awakens the silence, till one hears the beat of drum, the rattle of her bracelets and a haunting Indian air, gliding with sinuous steps through the subtleties of its quarter tones. She confronts us in her tense humanity, inviting us as it were, to guess what measure she danced." Though this model in metal, 5.2 inches in height, is slightly of rough workmanship, and the anatomy of the figure

slightly faulty, giving it a caricature look; and yet answering the purpose of a good caricature by portraying vividly the nauch-girl in her half impudent posture, beating time and music with her feet, revealing highly creditable technical skill and a harmonious combination of realism with imagination, to make the statuette a piece of real art.

The terracottas from the Indus city-sites have however proved disappointing. "They completely lack", complains Satish Chandra Kala, "the sophistication and maturity of the terracottas of the Sunga or Gupta periods". In spite of their very limited merit the Indus Valley terracottas enjoy considerable importance as the earliest known attempts at plastic modelling of the human form. Among the other fragments of human models from Mohen-jo-daro the black steatite piece depicting the flowing hair of a woman, done so creditably by carving, and the 1.5 inch beautifully modelled foot in bronze adorned with a curiously shaped anklet worn by women in the Simla Hills, deserve specific mention, indicating the artistic acumen of the Indus Valley people.

But the animal statuary of the Indus Valley boasts of considerable variety, and affords ample opportunity to assess the artistic genius of the Indus people. The best animal model in metal from Mohen-jo-daro is the 2.85 inches long bronze buffalo. The buffalo is in the act of bellowing. The lift of the head and the lashing of the tail indicate that the animal has anticipated the coming attack, and is therefore thoroughly roused. The full sweep of the horns has been effectively brought out

by turning the head slightly to one side. This normally ugly looking animal has here been caught by the artist at its best,— its dignity and ferocity characteristically brought out through the full sweep of the horns and the taut body muscles, as it gets ready to charge at the enemy full sweep. Though the figurine was found in a highly corroded condition, in its original state it must have excited high admiration for its skilful workmanship and artistic execution. The bronze specimen of the "couchant goat with lateral spiral horns, tied to a post by means of a broad collar," with 'its carefully fashioned ears and the slight traces of a beard below the chin', make it a splendid piece of art from Mohen-jo-daro, on account of both its excellent execution and artistic modelling. But the artists of the Indus Valley were particularly at home in modelling the bull, whether in shell or bronze, vitreous paste or pottery. The artist invariably took care to bring out the hair by means of incised lines, the wrinkles on the head and the neck by a similar artifice, and the garland round the neck with the aid of a graver. The ram, the dog, the monkey, the goat, the rhino and the squirrel were other animals with which the artist at Mohen-jo-daro toyed, leaving behind worthy specimens in metal, pottery and other materials, to be admired and appreciated as pieces of art, as much on account of their realism as their charm. The curled horns, and the short, upright tail of the ram; the short, powerful looking muzzle, the tightly curled tail, the lop ears, even the folds of the skin on the top of the head, and the generally spirited figure of the dog; the armour-plate like heavy skin-

folds, the peculier warty excrescences, the tubercles of the rhino; and the characteristic pose, with the fore paws to the mouth, and the tail close up along the back, of the squirrel, are all there beautifully brought out in a variety of specimens unearthed at Mohen-jo-daro, stand-ing out for their careful modelling and skilful execution.

But it is the seals that bear the most eloquent testimony to the artistic achievement of the Indus Valley people. As Brailsford rightly puts it: "The Mohen-jo-daro Civilization survives most eloquently in its seals". They range in their size from a half inch to two and a half inches square, and are usually square or rectangular in shape, only nineteen in a total of nearly two thousand being round. They are invariably made of steatite, and could either have been used as seals or as amulets, and for want of a better name are denominated as seal-amulets. Before their being coated with an alkali and then heated, to give them their attractive dead-white appearance and slightly lustrous surface, the seals were cut into shape by a saw and finished with a knife or chisel, obtaining their final touches with an abrasive. They were inscribed and engraved with cryptic characters, and religious, semi-religious and mythological scenes, often times involving the portrayal of real and fabulous animals. From an artistic point of view they are of great value. "Their general design and make up is exquisite". One of the most discussed of seals is the one depicting a three-faced, trident-adorned deity in a characteristic posture, associated with animals of varied species, reminding one of Lord Shiva,— the three-faced,

trident-crowned, maha-yogi, pasupati. In some seals the tree spirit is particularly well delineated— "the leaves in such scenes being carved with a neat deliberation". But it is in the animal portrayal that one may see the high water-mark of the Indus Valley art. The animals engraved, particularly the bull, the goat, the bison, the tiger, etc., are not only vibrant with vigour and force, but they are also full of dignity, restraint and repose. From the seals it would appear that these animals were considered sacred in the Indus Valley, and it was this veneration which inspired the artists to produce such fine and vigorous portrayals. The seal-engravings of the humped bull are particularly remarkable. They afford evidence not only of the artist's careful study of his subject, but also his breadth of vision. By the careful blending of realism with a breadth of treatment, the artist has well brought out the dignity of the animal. "The salient features of the engraved bull are the pair of long horns, almost making a circle, the muscles rippling under the skin in a most realistic fashion, and the well nourished and well engraved hump on the back. The dew-lap, hanging down to the feet, adds beauty as well as strength to the figure. It is composed with a keen sense of rhythm and aesthetic skill. Though the tail is an animal's most common and natural limb, in this relief it is made to appear uncommon and noteworthy by its treatment and rhythmical adaptation. Besides, it helps to maintain the balance with the dew-lap in the front part of the figure. In spite of its vigorous, muscular and well-built body, it does not lack modulation and natural softness. The

work is executed on such a small scale, yet the richness and accuracy of its details are amazing. This pre-historic example is a masterpiece, an excellent and typical example of Ancient Indian Glyptic Art, formulated and rendered with meticulous accuracy." The drawing of the bison with its powerful arched shoulders and relatively small hind quarters, is as realistic as that of the tiger— the open mouth, the tongue, the bared fangs, and the carefully placed double stripe being indicated with true fidelity.

There is enough evidence furnished by human statuary, models of animals and the seals that the people of the Indus Valley had reached a high water-mark in the sphere of art in those remote times, five thousand years ago.

RELIGIOUS BELIEFS

That the Indus Valley people, who had eminently succeeded in erecting a solid and massive edifice of material civilization, must also have developed religious beliefs and evolved a philosophy of a Higher Life is something natural to expect. Yet nothing very precise and definite can be affirmed regarding the religious life of the Indus people in the present state of knowledge of this earliest known phase of Indian Civilization. The WRITTEN WORD, which gives expression to human thought, is at the moment silent, since scholars agree to differ on the final decipherment of the Indus Script. Reliance for the religious beliefs of the Indus people has per force to be placed entirely on objects of a seemingly religious character, and accordingly conclusions have to be tentative and conjectural.

In reconstructing the religious fabric of the Indus people the SEALS and the terracottas, with their fine and vigorous engravings, enjoy the utmost importance. Mohen-jo-daro and the other allied cities of Indus Valley have yielded numerous pottery and faience models of a female, generally nude, elaborately decked out with ornaments and an imposing head-gear. The strikingly singular type of the female depicted with remarkable fidelity makes the nude female of the terracottas a highly revered religious character of the Indus Valley. The representations of the Divine Mother from Crete, Mesopotamia and elsewhere bear striking resemblance to the Female Figurines from Mohen-jo-daro, and later Indian tradition regarding the Mother Goddess cult

seems to confirm the conclusion that the Indus people had evolved the belief and worship of the Mother Goddess as a house-hold cult in the hey-day of their glory. This would easily explain the finding of the large number of Female Figurines from Mohen-jo-daro.

Along with the female Mother Goddess, a Male God also commands equal, if not greater, attention. The imposing figure of the male deity, and the environmental set-up amid which he is depicted, determine his supreme character and status among the deities. The Male God is invariably depicted as sitting on a raised platform, —seemingly on an animal skin, the head of the animal akin to the deer, appearing in front–, and in a yogic posture– legs bent double, heel to heel, toes turned downwards, arms out-stretcheed, resting on his knees, with the thumbs in front, an erect body, and the sight fixed on the tip of the nose. The God is endowed with three faces and wears a crown surmounted by a trident of horns or twigs, or a "three-stemmed flower". The seated figure appears elaborately adorned with bangles, necklaces, pectorals and the girdle. Sometimes the Male Figure is also surrounded by varied species of animals like the elephant, the rhino, the tiger and the buffalo. The general character and appearance of this Male God from Mohen-jo-daro makes him the proto-type of the historic Hindu God SHIVA. The three faces, the yogic posture, the trident, the deer throne and the animals around him, all indicate that the Male God of Mohen-jo-daro represented Lord Shiva, the Tri-mukha, the Maha-yogi, Pasupati— the Lord of all the worlds includiug the animals', and of all life— the Creator,

the Sustainer, and the Destroyer. The other finds from the Indus Valley sites indicate the worship of the Linga and the Yoni, the Trident, the Tree etc., all symbolic of the historic SHIVA. And if any credence is to be given to the interpretation of the Indus inscriptions by Rev. H Heras, the names of the Supreme Being of the Indus Valley like 'Enmai' (the eight-bodied), 'Vidukan' (the Open-eyed), 'Peran' or 'Perumal', 'Tandavan' (the Dancing Shiva) etc., confirm the belief that the Presiding Deity of Mohen-jo-daro was none other than the historic Lord Shiva, called "AN" according to the Herasian interpretation of the Indus Script. Considerable useful light has been thrown on the religious beliefs of the Indus people by the decipherment of the Indus inscriptions by Rev. Heras. The Herasian interpretation points out that the Indus people believed in the One-ness of the Supreme Being, AN, the fore-runner of Lord Shiva. He is commonly termed "IRUVAN", the One Who Is. Two distinctive attributes of AN of the Indus Valley were SUPERIORITY and SELF-SUBSISTENCE. Omniscience and Benevolence were also attributed to the Supreme Being of the Indus Valley, but what was particularly emphasised were His powers of Creation, Sustenance and Destruction. "HE alone is the Giver of Life", reads an Indus inscription, "possessing the the power to destroy as to build". This Supreme Being was sometimes identified with the Sun in the Indus Valley, as is evidenced from the inscriptions. And since the Sun passes through Eight constellations or Houses of the Zodiac, it is endowed with eight forms, and is accordingly called the 'Eight-Bodied'. The

worship of the Sun in the Indus Valley is indicated also by some objects from Mohen-jo-daro. An oblong object has on it inscribed the picture of a temple, wherein the disc of the Sun appears seated on a pedestal or throne, and the inscription on it, as Rev. Heras puts it, reads: "the Temple is of the High Sun". In another tablet the Sun-disc similarly mounted on a throne, appears enshrined under a temple porch.

The existence of a Male and a Female God in the Indus Valley five thousand years ago has given rise to a controversy as to which factor, the Male or the Female, dominated the Indus religion. Predominance is claimed for the Female factor by virtue of the large number of Mother Goddess terra-cottas unearthed at Mohen-jo-daro, and that for the Male factor by the highly elaborate delineation of the Deity and the wide-spread worship of His Symbols — the Linga, the Trident, etc. With limited excavation of the Indus sites including Mohen-jo-daro, and therefore with limited evidence as at present available, it would be premature and rather presumptuous to hazard the assumption of dominance supported merely by subsequent tradition.

There is some evidence and indication of a belief in Functional Gods in the Indus Valley, apart from and in addition to, the belief in and veneration of the Mother Goddess and the Male God, the prototype of the historic Shiva. This belief is supported by the readings of some inscriptions according to the Herasian decipherment and interpretation. The inscriptions record a God of the Fields, a God of Rain and so on, and also refer to local

deities, protective ones- the Ayanars- and evil spirits.

In the matter of God-realization or the acquirement of Supreme Bliss or Eternal Peace, prayer and meditation were the known instruments of attainment in the Indus Valley five thousand years ago. Images of the gods were common objects of worship and prayer. Emblematic worship was also common among the people, as is indicated by the finds and inscriptional interpretation. The Trident, the Tree, the Bull, the Linga etc. were venerated and worshipped in the Indus Valley. That Yoga was practised and meditation was resorted to, for spiritual advancement at Mohen-jo-daro is borne out by the statuary unearthed and the inscriptions found. The yogic posture of the male in steatite is identified as in a state of Dhiyana in which the Buddha is said to have attained ENLIGHTENMENT, (Ram Prasad Chanda). A rectangular faience tablet depicts a male in yogic posture, with a worshipper on either side, whose mode of Dhiyana is recognised as the same Asana in which Vardhamana Mahavir attained the Highest Knowledge. The posture of the Three Headed God is identified as the Pianarka. The standing figures appearing on various seals resemble in all respects the standing posture of Jina Rishabha in Kayat Sorga Asana. In the light of the availabe evidence R. B. Ram Prased Chanda ventures to remark that yoga was definitely practised, and images in yogic posture were worshiped in the Indus Valley during the flourishing period of Mohen-jo-daro. Whether prayers and meditation were practised in private or in public, in a temple or some such place, no definite answer can be ventured due to paucity of

direct evidence. The magnificent structures of the Stupa Area could eminently have served the purpose of religious establishments and congregational worship, but nothing as yet has been recovered from within them so as to justify such a surmise, though certain seals and inscriptions there-on do suggest the existence of temples in the Indus Valley in the hey-day of Mohen-jo-daro. On the whole it is safer to assume that the people maintained prayer-rooms in their private apartments, as is still the practice in some parts of India, and this surmise is supported by the finding of the large number of Mother Goddess images presumably meant for private worship, though the possibility of temples for congregational worship can not altogether be ruled out.

A certain amount of evidence, particularly furnished by the seals, suggests that the people of the Indus Valley were ridden by superstitions. The pectoral, the copper plates as well as the seal-amulets, with holes bored across them at the back, for suspending them by passing a thread through them, clearly indicate their own particular and peculiar use. The skill invested particularly in depicting the animals, the birds and small scenes on them is significant, and betrays their importance. "It appears", writes Satish Chandra Kala, "that all the animals depicted on the seals were sacred, and the veneration they inspired in the artists, led to such fine and vigorous modelling". The bull, the hare, the ram, the buffalo, the rhino and the dove appear frequently on the seals, and they seemed to have enjoyed a sacred importance on account of their association with the deities in whom the Indus Valley

people believed. It is no wonder therefore that they were looked up-to, to ward off evil and bring good luck to those who wore ornaments or seals bearing their impress.

The above in brief is the picture of religious life and belief of the Indus Valley people based on the generally accepted interpretation of the seemingly sacred finds from Mohen-jo-daro and other allied cities of the Indus Valley. But the same sacred objects are capable of a varied interpretation, as has been attempted by Swami Sankarananda. The Swami, an extremely staunch supporter of the Aryan authorship of the Indus Civilization, in his book, "Rig Vedic Culture of the Pre-historic Indus" has attempted to seek in the religious objects of the Indus Valley an all-out Aryan worship and belief. In this self-ordained lone task the Swami has been hard put to reducing the Vedic Religion to the belief and worship of the Supreme God of the Sun on the one hand, and by far removed analogies in both time and place, to interpret the religious significance of the Indus religious objects to conform and suit his preconceived thesis on the other. Accordingly the Swami's attempt to interpret the Indus Religion is unconvincing, since his arguments are circuitous, long drawn out and often ingenious. The ASWAMEDHA or the Horse Sacrifice is made to indicate by the Swami as purely Sun Worship, since there are indications of such a belief from the Indus Valley. And similarly Phallic Worship by an analogy to the Maypole of the West at a much later date, is shown to represent Sun-worship. The buffalo at the Swami's hands comes to represent Agni, the Mother Goddess too suffers a metamorphosis

and becomes a Solar deity, while the Three headed Shiva is reduced to the not very coveted status of a mere sylvan deity of the Pan variety, on the authority of later Greek belief. And above all the Swami ventures to offer a new date to the Indus Civilization— 7th Millennium B.C.— to suit his particular purpose. But all this amid an abundance of much fanfare of Vedic chapter and verse. Unfortunately, in spite of the great pains taken by the Swami to adduce extensive evidence in support of his thesis, his interpretation has not attracted any worthy adherents, for obvious reasons.

Due to the lack of unanimity among scholars on the all important problem of the decipherment of the Indus Script, and also on account of the limited scope of the excavation work undertaken so far, it would be too presumptuous to attempt any deeper insight into Indus Religious Belief and Philosophy of Life beyond the general observations on religious belief and usage as attempted above. It is of enough importance and significance to realize that the people of the Indus Valley had attended to religious life with as much lively enthusiasm as they had evinced in secular and material life, five thousand years ago.

THE ART OF WRITING

A race of people, who had been able to erect an admirable edifice of civilization and culture throughout the lower valley of the Indus, must have evolved a worthy instrument to give expression to their innermost thoughts and feelings. Though no lengthy texts have been found from the Indus city-sites presumably on account of their more perishable writing materials than even the clay tablets of Mesopotamia, a considerable number of finely cut seals of stone, talc, or steatite, clay, faience, ivory and copper, mostly quadangular with a square section, and sometimes rectangular or oval, or being three, four or six sided and cylindrical as well, in shape, with inscriptions on them, and 'usually embellished with small reliefs representing different animals, mythological or religious scenes, or ancient magic symbols such as the Swastika', having been recovered from the Indus cities, prove beyond a shadow of doubt that the Indus people had developed a language and a script of their own. But at the moment "their thoughts remain locked up in a script that we can not read." "The intellectual elements of the Indus Valley Culture" remain a closed book for us till this mystery is ultimately resolved by a unanimously accepted decipherment. By now more than a dozen specialists and scholars have assiduously applied their minds to solve this knotty problem, but without much tangible success. Waddel (L. A.), perceiving some similarities between the Indus Script and that of the Sumerians, links Indus writing to the oldest known script of Mesopotamia; Langdon

connects it with the Indo-German languages and considers it the parent of the Brahmi Script of Baluchistan and those parts; Dr. Pran Nath detects an Egypto-Mesopotamian influence on it; Sir Flinders Petrie links it to the Egyptian Hieroglyphics; W. von Hevesy (Hungarian Orientalist) connects it with the Easter Islands' Script; Hunter (G.R.) supports Langdon's surmise, Herr P. Meriggi (Italian Scientist) proffers a Hittite decipherment of the Indus inscriptions; Swami Sankarananda suggests a Tantritic interpretation, supported by Dr. Barua (B. M.); Dr. Karmarkar (A. P.) suggests a sanscritic decipherment, supported by Prof. Gadd of the British Museum; Prof. Hronzy (B.) connects the Indus Script with the Phoenician, Cretan, and Hieroglyphic Hittite writing; and Rev. H. Heras prefers a purely Dravidian interpretation of the inscriptions. But in all these and other heroic endeavours to solve the riddle, some absurd and ridiculous translations make these interpretations unacceptable and erroneous. For example Dr. Pran Nath finds words like Larkana and Mohen-jo-daro occuring in the inscriptions. The town of Larkana came into existence not more than three hundred years ago, when the Sindhi language written in Nagri letters was in vogue; and yet the learned Doctor finds Larkana occuring in the inscriptions of five thousand years ago! And again Mohen-jo-daro is the name which could have been applied only after this once flourishing metropolis of the Indus Valley had been reduced to a mound, and had already been abandoned. A city which is alive and kicking with activity can not by any stretch of imagination be called

a mound until it has been abandoned and thus brought to ruins. How could such a nomenclature which must have been created and applied to the city only after it had been finally forsaken by the townsfolk, be found occuring in the inscriptions found from the depths of the city-ruins themselves !!

The problem of the Indus Script has proved to be particularly difficult of solution and has persistently defied a unanimously acceptable decipherment, on account of the script as well as the language both being unknown, as also on account of "the fact that the Proto-Indian inscriptions are in respect of geography and time too distant to enable us to find points of contact such as words, names etc., with the known cultures of Western Asia". All the same it is possible to attempt an external classification of the Indus signs, though this too is often not an easy task, since it is not possible to differentiate between the various symbols, as "it is difficult to decide whether certain signs are graphic variations of the same character or are different characters". But still it is possible to arrive at certain basic conclusions which would be– and actually have been– unanimously acceptable about the Indus Valley Script, on the basis of an external classification of the Indus signs. The Indus writing may be defined as "one of stylized pictographs"— 'schematic and linear'. It is cuneiform and is phonetic, or as Rev. Heras points out, "Picto-phono-graphic". It however cannot be categorically affirmed that the script is monosyllabic, as Prof. Langdon seems to think, nor can it be pronounced to be 'of such a logical nature' that it may be at times read without knowing its

meaning', as is affirmed by Rev. Heras, and 'that it discloses a tendency to become alphabetic'. The Indus writing appears to be partly ideographic and partly phonetic, and could have ultimately become alphabetic. As Dr. DIRINGER points out in his book: "With about three hundred symbols the Indus Valley Script can not be either alphabetic or syllabic; on the other hand the number of symbols would be too small for a purely Ideographic Script. For this and other reasons it is probable that the script is partly Ideographic and partly Phonetic (may be syllabic) and that it also contains some determinative signs". Regarding the mode of writing it is accepted on all hands that the script was written from right to left. As Prof. Hunter points out in this connection: "We have no less than 247 inscriptions which demonstrably read from right to left. They may be accepted as conclusive evidence of the normal direction of the writing, at least as regards single line inscriptions, and the first lines of multiple line inscriptions". It may also be noteworthy to point out that the Indus people were conversant with the Boustrophedon type of writing, as is evident from some of the specimens of writing recovered from Mohen-jo-daro and elsewhere. As Dr Hunter puts it, "Cases of Boustrophedon type of writing, though apparently rare, undoubtedly occur. In such cases the upper line reads from right to left, while the lower one from left to right". The Indus Script betrays the existence of accents in it, "revealing an astonishing care and knowledge of phonetic principles", at so remote a date which would hardly have been possible to believe, but for the archaeological

evidence presented in its support. The script also boasts a system of modifying basic signs by strokes both internal and external, which suggests that the Brahmi Script could have been derived from the one in use in the Indus Valley five thousand years ago. That the Indus Script was originally pictographic can by no stretch of imagination be denied, "but it is nearly impossible to decide", at the present stage of our knowledge, "whether it was truly indigenous or imported". There is considerable evidence to indicate that the Indus writing was, to some extent, influenced by the Egyptian, Sumerian, Phoenician, Cretan and Hittite Hieroglyphic writings. "A connection between this and the common ancestor of the Cuneiform Writing or the Early Elamite Script is probable, but it is impossible to determine what the connection was."

AUTHORSHIP OF THE INDUS CIVILIZATION

A study of the Indus Civilization raises the most natural of questions as to who were the authors of this Indian Civilization, the builders of the monumental cities of Mohen-jo-daro, Harappa etc. And yet no precise answer could be given to this vital question. "In sharp contrast to the practical unanimity as regards the date of the civilization, there is a wide divergence of opinion among archaeologists as to its authors".

The problem has been rendered the more difficult of solution by the very meagre anthropological evidence unearthed from the Indus sites, and the conclusions it gives rise to. The skeletal remains from the Indus cities as examined by experts— Col. Sewell and Dr. Guha— point to a heterogenous population, predominated by the people of the Mediterranean race. Rev. Heras by his interpretation of the Indus Script lends support to the heterogenous population theory of the Anthropological experts. But this outcome of expert investigation,— though it need not cause any surprise, since an entrepot of commerce of the stature of Mohen-jo-daro must have lured within its city-walls people of various races and climes,— carries us no-where, since not much reliance can be placed on the evidence of the skeletons recovered so far. Forty-one skeletons so far found, can not be considered to furnish us a true index of the racial stock of a population running into millions at Mohen-jo-daro in the hey-day of its glory.

The statuary remains from the Indus cities also

are not of much avail, not only on account of the meagreness of material, but also due to the state of their preservation. "It would be preposterous to put any reliance on this type of evidence," opines an expert on the subject.

Unfortunately, the issue seems to defy all attempts at a satisfactory solution, and gets further clouded on account of the absence of any skeletal types which characterise the linguistic groups of people, who, in the opinion of many scholars, were the originators of this 'Proto-Indian' civilization. There exists no skull or skeleton to distinguish the people called the Vedic Aryans, or even as a matter of that, the Dravidians, the Panis, etc.

Since the anthropological, skeletal and statuary remains do not furnish any reliable solution to the problem, nor do they suggest a helpful clue, there remains only one other manner in which the matter may be fairly determined, and that is to ascertain pre-sisting affinities in the life as evidenced in the Indus cities and the life of the people who are put forward as the authors of the Indus Civilization. Here the cases of only three peoples— the Vedic Aryans, the Dravidians and the Panis— need be considered, since the case for the other peoples like the Sumerians etc., is hardly strong enough to carry much conviction.

The case in favour of the Vedic Aryan authorship of the Indus Civilization is put forward by a 'glorious minority'. The general and usual trend of argument urged by the supporters of the Aryan cause is to accept

an indefinite antiquity for the Vedas, but pin down the Indus Civilization to a fixed date; and then try to fit-in by some means or another, Aryan life with the life in the Indus Valley in Pre-historic times, and vice versa. If any aspect of Indus life does not find a mention in the Rig Veda, it is treated either as a later addition, or being actually a part of the Vedic life but not meriting a direct mention, on the plea that what is not denied in the Vedas must be taken to have been affirmed. How fallacious such argumentation is, is self evident. The proofs put forward in favour of the Aryan cause are usually negative in character, the arguments urged are invariably laboured and circuitous, and the conclusions there-from are therefore hardly convincing, and are in addition negative in nature and content— "There is nothing inconsistent in calling the Vedic Aryans, the authors of the Indus Civilization". The facts of the case are straight-jacketed to suit the object in view, and hence the conclusion instead of emanating naturally, is forced and negative, and thus loses all its force and charm.

It is urged on behalf of the Aryans that as they dwelt in the Indus Valley since times immemorial, and enjoyed a continuous later history, the Indus Civilization, which is placed in theT hird Millennium B. C., must necessarily form a part of the parent civilization— the Vedic Civilization. This very basic argument can hardly stand any critical scrutiny. Firstly in this argument a comparison is sought between two civilizations in which the dating of one is left sweetly vague, pinning down the other to a fixed time-period— the Vedas are made to

belong to hoary antiquity, while the Indus Civilization is limited in date to the Third Millennium B.C., leaving out of account the long period of antecedent growth of the Indus Civilization. The "hoary antiquity" argument in favour of the Vedic Aryans as the authors of Indus Civilization is hardly tenable on a detailed examination. Dr. A. D. Pusalkar, an ardent advocate of the Aryan cause, urges as under: "Dr. Jacobi would place the Rig Veda at least in five thousand B.C.— a moderate estimate— which accords well with the nature of the civilization we find at Mohen-jo-daro, which is assigned the date 3200-2750 B. C.". How does the nature of the Indus Civilization accord well with Vedic Life? How could Chalcolithic Bronzo-copper Urban Civilization of the Indus proceed from a purely Agrico-pastoral, Rural Iron-Horse Civilization of the Vedic Aryans?? Can it be categorically asserted that what is posterior in date is necessarily a natural development of anything anterior??? The argument on the very face of it falls flat. And to lend further support to his hypothesis that the Indus Civilization is posterior to the Vedic, Dr. Pusalkar writes: "Dr. Swarup refers to the knowledge of writing displayed by the citizens of Mohen-jo-daro by their seals, which shows a later phase than the Rig Vedic age, when writing was not known". This argument is as shallow and hollow as the previous one. Would it be correct to say that the aborigines of present day India are anterior to the rest of the Indian people, on the ground that unlike the rest of the people, they know no writing? Evolution of writing denotes a development of civilization as a result of environment and

opportunity, irrespective of date, and can hardly be urged to determine an anterior or posterior phase of a particular civilization, irrespective of other factors. Proceeding further, the learned Doctor tries to secure Vedic sanction for what he finds present in the cities of the Indus. And it is particularly interesting to study how an ardent advocate of a cause, instead of taking the bull by the horns, tries to evade the awkward. Counteracting the arguments of Sir John Marshall, Director General of Archaeology in India, against the Aryan authorship of the Indus Civilization, Dr. Pusalkar observes: "Regarding Agnikunda, the Rig Veda does not furnish any evidence as to their being an Agnikunda in every house. This *may* have been a late development". The Docter does not feel called upon to assign any proof for his presumption, of whose validity he himself is in doubt, as is signified by the use of the word '*May*',— a highly prudent way of evading the awkward. Confronted with the need for citing Vedic sanction for fish-eating, which undoubtedly prevailed in the Indus cities, as is evidenced by the finding of fish-hooks, and fish bones in quantity, Dr. Pusalkar urges: "this is merely an argumentum ex-silencio. There is no evidence in the Rig Veda to the aversion of the Vedic Aryans to fish-eating, which might well have formed an article of their diet"– once again a negative argument and a negative conclusion. The same method is employed by the learned Doctor in proving the existence of those animals in the Indus Valley which are commonly associated with the Vedic Aryans, and explaining the absence of those in

the Vedic texts which enjoy pre-eminence in the Indus cities, as is evidenced by the unearthing of excellent models of such animals from the Indus sites. The horse is an animal of prime importance to the Aryans, and hence its presence in the Indus cities is of considerable value in determining the Aryan authorship of the Indus Civilization. Dr. Pusalkar and other advocates of the Aryan cause continue to put all their reliance regarding the presence of the horse in the Indus cities on the slender suggestion based on a head-less trunk of a model animal, the fall of the tail of which had suggested to Dr. Mackay, who succeeded Sir John Marshall as Director General of Archaeology in India, the probability of the existence of the horse in the Indus Valley in per-historic times, and who had very modestly put forth the suggestion with the caution that it must be substantiated by later excavation, thus: "the identification of the model as representing the horse is purely tentative". However, Dr. Mackay subsequently repudiated the suggestion entirely in his monumental book, "Further Excavations at Mohen-jo-daro". It is hardly fair to assert the existence of an animal on the basis of a single model, and that too a headless trunk, recovered from an upper stratum, and continue to rely on this very slender evidence, despite the suggestion having been repudiated by its author. Regarding the cow, frequently reverentially referred to in the Vedic text, but which did not appear to have enjoyed any importance or eminence in the Indus cities, the learned Doctor remarks: "Future excavations may bring forth express portrayals of the cow". Coming to

the tiger, whose absence is evident in the Rig Veda, and whose conversance in the Indus Valley is affirmed by the highly realistic portrayals of the animal recovered from the Indus sites, Dr. Pusalkar suggests that the tiger may easily have been mistaken for the hyena, mentioned in the Rig Veda. But realizing the feebleness of his own suggestion, he goes on to argue that since the tiger does find mention in the Taittiriya Samahita and the Athrava Veda— later compositions than the Rig Veda–, it may be presumed that the Rig Vedic people also knew of the tiger, but saw no need or cause to mention the animal in the text. Regarding the elephant, so much in evidence on the seals from the Indus cities, Dr. Pusalkar seeks to establish the conversance of the Aryans with the animal by citing Vedic words of uncertain date, 'VARAHA' and 'HASTIN', but feeling unconvinced himself, he seeks shelter behind a premature remark of Dr. Mackay in this connection— "possibly the elephant was not so well known to the inhabitants of Mohen-jo-daro, as was thought at first",— and wishfully thinks it would hold true. The conversance of the Indus people with the elephant has undeniably been established not merely by the drawings of the animal on the seal–amulets, but also the clay models of the animal recovered from the ruins at Mohen-jo-daro. Arguing thus, invariably negatively, and laboriously, and therefore not very convincingly, Dr. Pusalkar at long last arrives at a negative and feeble conclusion- "There is nothing inconsistent in calling the Vedic Aryans as the authors of the Indus Civilization."

It is equally amusing and instructive to analyse

and study the proofs and arguments adduced by another ardent supporter of the Aryan cause—Swami Sankarananda. The Swami attempts to prove the Aryan authorship of the Indus Civilization mainly by reconciling the religious objects from Mohen-jo-daro with Vedic Aryan worship, and vice versa. But once again the proofs proffered are negative in character, and the arguments are often too presumptuous and dominated by a peculiar personal logic of the author's own. The thesis starts with: "India was perhaps the original home of the Arya"— too tall and presumptuous a claim, of whose veracity the author himself is in doubt, when he significantly qualifies the statement by the word "perhaps". After this initial doubtful assertion, the Swami proceeds to eliminate the horse and the temple from Aryan worship, since both were absent at Mohen-jo-daro. The displacement of the horse from its high pedestal in Aryan worship proved comparatively easy for him by his profusely quoting Vedic chapter and verse to show that the word 'ASVA' in the Asvamedha Sacrifice originally stood for the Sun-god, and not for the horse, which was introduced in in Aryan life by the Turanians. On the face of it the Swami's argument does not appear to be unsound, but a detailed analysis of the same discloses its inherent weakness and hollowness, and makes it unconvincing, and therefore unacceptable. Varying use of words and terms does alter their connotation, and the 'ASVA' may originally have signified the Sun among the Aryas, but one is left wondering why the Aryans did not denominate the horse as 'TURAGA', when they were introduced to the animal through the Turanians, in whose language

it was so called, and at what stage was the horse introduced into Aryan life so that it came to occupy so pre-eminent a place in their life, and when exactly in the Vedic texts the "ASVA" came to signify 'the horse' in place of the original SUN. Leaving these points sweetly vague, the Swami has really abandoned his case midway. Regarding temples also the Swami makes a sweeping statement that they are comparatively a recent occurrence, and contemptuously blames both kings and priests for their establishment— "the result of collusion of kings with temple-priests, to defraud the innocent people in the name of religion". In his vehemence and over-flowing enthusiasm to spread venom against the priests, the Swami with quiet abandon-forgets to authenticate his rather serious charge, and does not care to assign any date to the 'unholy' alliance of priests and kings against the common people, ignoring the significant observation of expert archaeologists that the large and extensive building structures of the Stupa Area at Mohen-jo-daro seemed to have served a religious purpose. Even otherwise the absence of the horse and the temple among the Aryans is a negative proof of identity, applicable as much to the Aryans as to the Dravidians of ancient times. To support his case further, the Swami attempts, seemingly successfully, in associating fish-eating with the Aryans, by extensive quotations from the Vedic texts in support. And yet the proposition does not command even appreciable conviction in the light of the unanimously accepted picture of Aryan life.

Reconciliation of religious symbols of Mohen-jo-

daro with Aryan religious beliefs by the Swami is particularly fascinating. Phallic worship in the Swami's estimation is really the worship of the Sun, on the analogy that in certain countries the Phallus stood for the pole, which in turn stood for the Sun. The Swami thus seeks to deduce that Phallic worship must have been a part of Aryan religious belief on the plea that the Phallus was only a symbol of the Sun, in whom the Aryans believed, in spite of there being no direct evidence in regard to it in the Vedic texts. Further the Swami goes on to suggest that the Unicorn of the Indus Valley actually represented the Rhinoceros, which through its strength and ferocity symbolised the Scorching Sun. Hence in the opinion of the Swami, Unicorn worship was in reality worship of the Sun, an Aryan deity. Here also the Swami's deduction is without Vedic sanction, and suffers from another major defect,— the belief that the Indus people could not draw the Rhino and hence made the Unicorn represent it, which is amply belied by excellent examples of Rhino modelling which have come to light from the Indus cities. Next the Swami reconciles the Buffalo of the Indus people with the Vedic deity AGNI, since at certain stages AGNI is referred to as MAHISHA in the Vedic texts. Here too the Swami adduces an indirect proof, and that through a doubtful deduction. In a similar fashion the cult of the Mother Goddess is summarily made out to be a Vedic cult, and the THREE HORNED GOD of the Indus Valley is reduced to the status of a mere sylvan deity of the Greek God Pan variety, without taking into account the antiquity of the Indus Civilization in

contrast to the much later Greek Civilization. Likewise the Serpents of the Indus cities' religious belief are made out to be AHI, representing the Vedic CLOUDS.

Confronted by the absence of all reference in the Vedic texts to certian gods of the Indus cities, who could not possibly be conveniently disposed of, by being reduced to conform to Vedic belief in how-so-ever remote and indirect a manner, the Swami succumbs to the highly unconvincing plea that these were worshipped by the backward classes in the Indus Valley, and were therefore unworthy of mention in the Vedas. Thus the Swami manages to fit-in all the religious symbols of the Indus Valley in Vedic Aryan religious belief and worship. And accordingly he is hard put to pushing back the date of the Indus Civilization by nearly four thousand years, since then alone, according to him, can the Indus Culture fit-in with the Vedic! And yet the Swami does not feel called upon to prove or explain the new antiquity of the Indus Civilization!! It is to be regretted that the learned Swami inspite of his urgent pleas to denominate the Indus Culture as Vedic, presents not a single positive argument or proof in support of his thesis of the Aryan authorship of the Indus Civilization.

Even if the negative arguments of the ardent advocates of the Aryan authorship of the Indus Civilization were accepted at their face value, their case is considerably weakened by the objections urged against it, since these objections can not be convincingly controverted. The complex urban civilization of the Indus

cities can by no stretch of imagination be associated with the Vedic Aryans. Not only do the Vedas not depict such a complex life, but they positively present an agrico-pastoral picture of life, and laud it. It would hardly be justifiable to associate the social services, the complex economic set-up, the arts and crafts, etc., of which abundant evidence comes from Mohen-jo-daro and other allied cities of the Indus, with the Vedic people, despite references to the cities with a hundred gates in the Vedas, since such references to cities are not only rare and remote, but such cities do not form part of the typical habitations of the authors of these treatises. Even the association of some animals abundantly portrayed in the Indus cities like the elephant, the rhino, the unicorn, etc., with the Vedic Aryans would be difficult, if not well nigh impossible. The absence of the note-worthy animal associated with the Vedic Aryans, namely the horse, in the Indus Valley in the flourishing period of Mohen-jo-daro, and the non-conversance of the Indus people with the metallurgy of iron, with which the Vedic Aryans were fully acquinted, greatly weaken the case of the Aryan authorship of the Indus Civilization. Above all, since the dating of the Vedic texts is still indefinite and undecided, it would be unfair to assign the authorship of the Indus Civilization to the Vedic Aryans. As evidence stands at present the opinion expressed by R. B. Ramprasad Chanda in this connection cannot be easily brushed aside— "Nothing as yet discovered affords any indication that the builders of the pre-historic cities of Harappa and Mohen-jo-daro were Vedic Aryans".

In contrast to the Aryan authorship, the case of the Dravidians as authors of the Indus Civilization carries far greater weight and conviction, since it is based on direct and positive proofs and arguments. A great resemblance subsists between life as witnessed at Mohen-jo-daro and as it is may be seen today among the Dravidians of the Indian peninsula, in particular the Nayars of South India. As at present in Southern India, Lord Shiva and the Mother Goddess enjoyed pre-eminence and popularity in the religious beliefs of the Indus people as evidenced at Mohen-jo-daro, and Phallic and other emblematic worship was as common and popular among both the peoples. The attempt of Rev. H. Heras to decipher the Indus Script through the Dravidian languages, and his tracing pieces of poetry in the popular Kural metre among the fragments of writing as unearthed at Mohen-jo-daro, betray a kinship of authorship of the two Civilizations, Dravidian and Indus. The habits and preferences of the two peoples also bear close resemblance. Both peoples were equally fond of personal cleanliness as is evidenced by private and public baths, both had a pronounced fondness for necklaces, preference for beads in their ornaments, and both preferred the bull and the elephant among their commonest animals. The shapes of their pottery and the designs and motifs on them also bear a close resemblance. The cumulative effect of the varied and close affinities in their lives hardly leaves a doubt that the builders of Mohenjo-daro and other monumental cities of the Indus Valley were of the Dravidian stock.

The case for the Panis mentioned in the Rig Veda

is comparatively a simple one. The Rig Veda describes the Panis as commercial enterprisers, etc. The Indus Civilization was a commercial civilization, as is borne out by the articles unearthed from the Indus cities. As such it is not unlikely that the Panis might have been the authors of the Indus Culture. R. B. Ramprasad Chanda significantly writes as follows in this conenction: "A hymn (9,112) refers to the different professions followed and the crafts practised by the Aryans. Trade finds no place in this list. So the conclusion that the much maligned Panis were the representatives of an earlier commercial civilization is irresistable".

It is interesting to notice the latest trends in connection with the problem of authorship of the Indus Civilization. Some scholars suggest that the so-called Aryans, Dravidians and Panis were not different peoples, but they all belonged to the same racial stock, and merely represented different waves of immigrants to India from the grassy belt extending west of Pamir to the Caspian Sea, in remote antiquity— the Dravidians and Panis representing the earlier, and the Aryans a later wave. And this theory finds favour with even so staunch a supporter of the Aryan cause as Swami Sankarananda. But till this hypothesis secures unanimous accord at the hands of scholars, the case for the Dravidian authorship of the Indus Civilization, in the present state of knowledge, seems worthy of acceptance, till the future offers a more trustworthy evidence to alter this conclusion.

SOCIAL LIFE AND POLITICAL ORGANISATION

A community of people who had succeeded in erecting a highly creditable edifice of culture and civilization so long ago, must also have organised their social and political life as well, and effectively so. But it would be too presumptuous to hazard much regarding the social and political set-up of the Indus Valley people in light of the very meagre material evidence available, bearing directly on these aspects of life. The structural ruins, as well as the articles recovered therefrom, indicate that society was organised on the basis of professional classes. But it is not possible to have any further details regarding this society. Nothing at the moment could be said about class rivalries and class distinctions, for example. The women-folk seem to have enjoyed considerable social freedom and opportunity in the Indus Valley at that remote date, as is suggested by the elaborate personal adornment of the women-folk of Mohen-jo-daro and other allied cities. The provisioning of public baths and other places of public resort indicate that the people met together periodically for recreational and other purposes. But it would hardly be possible to affirm if they were keenly fond of sports and organised athletic contests and swimming competitions, etc. Great attention seems to have been paid to personal cleanliness and neat appearance, and personal hygiene therefore seems to have been a great social force.

As regards political organisation and set-up nothing

very substantial could be affirmed for certain. There is no denying the fact that the complex life of the cities of the Indus Valley could not have been possible without an elaborate system of political organisation. But it is next to impossible to say anything regarding the character of the administration. Whether autocracy or aristocracy controlled the political destiny of the Valley, or that the people had organised themselves on a purely democratic basis, can hardly be ascertained. Nor can it be asserted whether the whole of the Indus Valley was a single kingdom, or was made up of City-states, each under a separate and independent administration, allied to each other on account of common interests. But that the administration was enlightened and benevolent, though firm and strict, and that it was highly respected by the population, can hardly be denied. Providing Civic amenities, setting-up public resorts and the general tenor of life in the cities of the Indus Valley, as is evidenced in the sites so far excavated, indicate that the administration was highly alive to the needs and interests of the population, and made every endeavour to keep the inhabitants contented and happy. The absence of any serious instances of encroachment of public land is a positive proof that not only was the administration vigilant, but that it was highly respected by the citizens, who scrupulously avoided the infringement of rules and laws. Whatever the character and nature of the administration in the Valley of the Indus might have been, it is creditable that it fostered a highly advanced civilized and cultured life.

EPILOGUE

By the discovery of the Indus Civilization, India has at last attained her rightful place among the civilized nations of the world, and the traditional antiquity of her civilization and culture has been authenticated. Apart from this, with the progress of Archaeology in India and diligent research, further data will be made available to the scholar, and it will be increasingly realised that the ramifications of the Indus Civilization were indeed far more extensive than the original excavators of the Indus sites had ever imagined. Periodical news items keep pouring-in, and indicate that the Indus Civilization extended to the Gangetic Valley in the east, and also to some extent to the Indian peninsula, along the west coast.

But here a note of caution need be sounded. It has become a fad with some scholars to relate all new finds and sites to the Indus Civilization on the slightest pretext. Mere exploratory excavations do not necessarily warrant the establishment of relationship or indentity of civilization and culture. This fad of establishing a close relationship on superficial points of identity is the result of designating the Indus Civilization as Chalcolithic. Excavating only a few feet deep and finding a few flints and scrapers along with some minor articles of metal, sends a young and immature archaeologist into raptures at having discovered a new site of the Indus Civilization. This is hardly fair. It is treating

archaeology too lightly. Already a serious error has been committed in the classification of the finds from the Indus sites, which has caused considerable confusion. The objects recovered from Mohen-jo-daro and elsewhere have not been classified stratigraphically, so as to facilitate in establishing their correct relationship with similar finds from other sites and civilizations, and thus help to assign a more definite date to the Indus Culture, and establish a more wholesome connection of the Indus Civilization with other contemporary cultures. It is therefore essential that the scholar should proceed on surer and more substantial grounds to establish an identity between the culture of the Indus Valley and that of any other sites where he might have been engaged in archaeological discovery, than on mere general and superficial evidence as here-to-fore.

In fact one can hardly be too dogmatic about any inferances and conclusions regarding the Indus Civilization, since the Indus sites have only been partially excavated and there exist at present serious gaps in the evidence available to the scholar. But it is highly encouraging to find scholars like J. P. Desouza applying their minds to connect the Indus Civilization with other contemporary civilizations of the time on the basis of ceramics and their evolution and progress, as is done by archaeologists elsewhere in the world. A great deal is possible, a great deal can be achieved, but it all depends on the governments in whose dominions the major sites of the Indus Civilization now lie, to preserve and foster

an enthusiastic interest in unravelling India's earliest phase of glorious civilization more fully than has so far been possible, by affording facilities for further exploration and excavation, which alone would make a full and fair assessment of the Indus Civilization possible.

SELECT BIBLIOGRAPHY

Advani— B.M.	Mahan-jo-daro
Ancient India	Bulletin of the Archaeological Survey of India, 1947–53.
Archaeological Survey of India	Reports 1893–1937.
Bannerjee- R. D.	Modern Review, 1927.
Billimoria- N. M.	Journal Sind Historical Society: (a) The Dwellers of the Sapta-Sindhu (b) The Worship of the Mother Goddess and the Bull. Journal Polynesian Society, Plymouth, Vol. 48 No. 2, June 1939.
Bose- Sudha	Caravan, 1946.
Chanda- R. B. Ramprasad	Memoirs of the Archaeological Survey of India, No.s 31 & 32.
Chatterji- S. K.	Modern Review, 1928.
Childe- V. Gordon	Progress and Archaeology, 1944.
Dikshit- R. B. K. N.	Progress of Archaeology in India during the past 25 years, 1939.
Diringer- Dr. D.	The Alphabet
Heras- Rev. H., S. J.	Studies in Proto-Indo-Mediterranean Culture, Vol. I. Articles in various journals including:- Journal University of Bombay: Vol. 5, Part 1, July 1936. Vol. 7, Part 1, July 1938. Journal of Indian History: Vol. XVI, Part 3, December 1935. Vol. XVII, Part 1, April 1937.

New Indian Antiquary:
Vol. 1. No 10, January 1939.
Indian Historical Quarterly:
Vol. XIV, Pp. 45-55, 1938.
Indian Culture, April 1937.
Royal Asiatic Society, Bombay Branch, Journal, Vol. XIV, Pp 123-78, 1938.
Bihar and Orissa Research Society Journal, Vol. XXII, Part 4, Pp. 1-13, 1936.
Bhandarkar Oriental Research Institute Journal, Vol. XIX, Part 2, Pp. 122-26, 1938.
New Review, January 1939, Pp.1-12.
New Era, December 1938.
B.B.C.I. Annual 1938, Pp. 1-6.
Coronation Souvenir,- India, the Empire of the Swastika.
A Volume of Iranian Studies, edited by Sir E. Denison Ross.
Sardesai Commemoration Volume: Pp. 223-34.

Holmes- Winifred — An Introduction to Indian Art.

Hronzy- B. — Ancient History of Western Asia, India and Crete.

Hunter- Prof. G. R. — The Script of Mohen-jo-daro and Harappa and their relation to other Scripts.

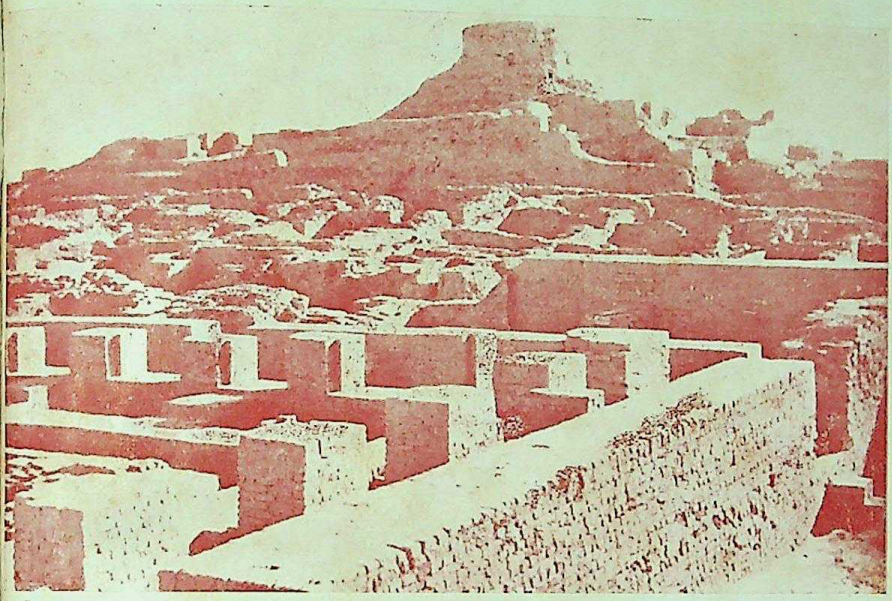
Indian History- Journal of — Vol. IX, Part 3, December 1932.

Kala- Satish Chandra	The Uday Shanker Centre News Bulletin, 1942.
Konow and Tuxen-Sten and Paul	Religions of India, 1949.
Latham- Ronald	In Quest of Civilization, 1947.
Mackay- Dr. E. J. H.	Indus Civilization. Further Excavations at Mohen-jo-daro. Chanhu-daro Excavations, 1935-6 (American Oriental Series Vol. 20, New Haven, Connecticut, U. S. A.)
Majumdar- N. G.	Explorations in Sind, Memoir No. 48, Archaeological Survey of India.
Marshall- Sir John	Mohen-jo-daro and the Indus Valley Civilization, Three Volumes. Illustrated London News, 20th & 27th September 1924.
Nature	27th March 1937, Page 557.
Piggott- Stuart	Ancient India, 1946-1949, and Pre-Historic India.
Polynesian Society- Journal of	Vol. 48, No. 7.
Pran Nath- Dr.	Journal Benares Hindu University, 1937, Pp. 305-358. Indian Historical Quarterly, Vol. VII, 1931.
Pusalkar- Dr. A. D.	Authors of Indus Culture— Annals of the Bhandarkar Oriental Research Institute, Vol. XVIII, Part 4, Pp. 386-95, October 1937.

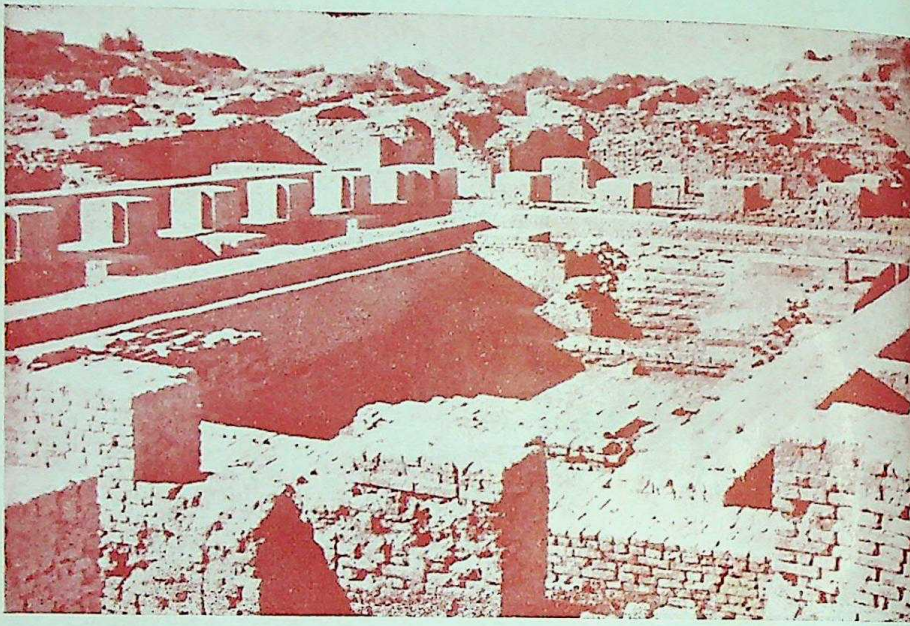
	Bharatiya Vidya, Vol.s III & IV, 1941-43.
Rawlinson- H. G.	India- a cultural study.
Sankarananda- Swami	Rig Vedic Culture of the Indus.
Sarkar- Benoy Kumar	Golden Jubilee Volume of the D.J. Sind College, Karachi, 1939.
Stein- Sir Aurel	On Alexander's Track on the Indus.
Triveda- D. S.	Journal of Indian History, Vol. XVI, Part 3, December 1937.
Turner- Dr. Ralph	The Great Cultural Traditions, Vol. I.
Wheeler- Dr. R E.M.	Ancient India, 1947.
Zimmer- Heinrich	Myths and Symbols in Indian Art and Civilization.

Printed by Karamchand N. Dewani
at the Chandan Printing Press. Hassali Tank Lane,
Dadar (W. R.). Bombay 28.

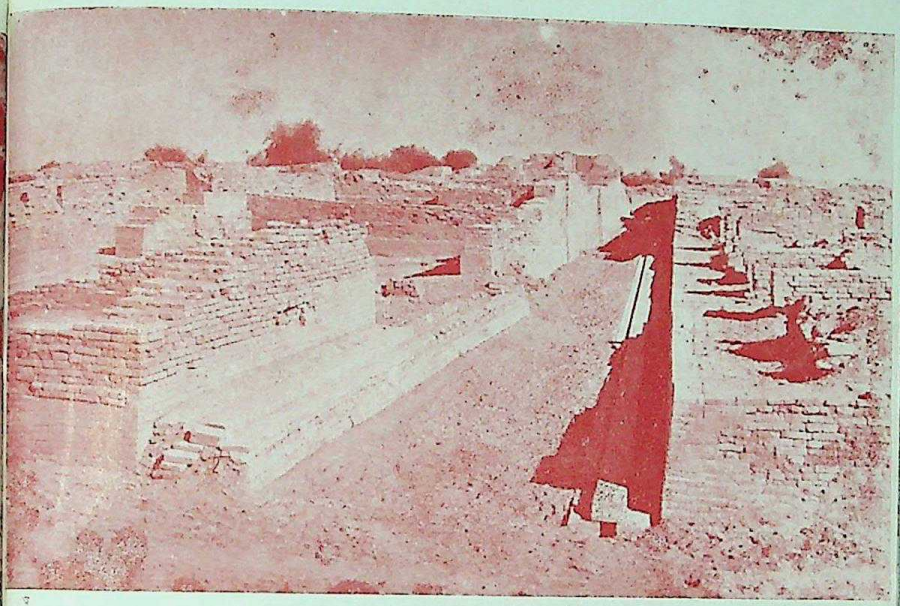
and published by
Prof. C. L. Mariwalla, Jai Hind College, Churchgate,
Bombay - 1.



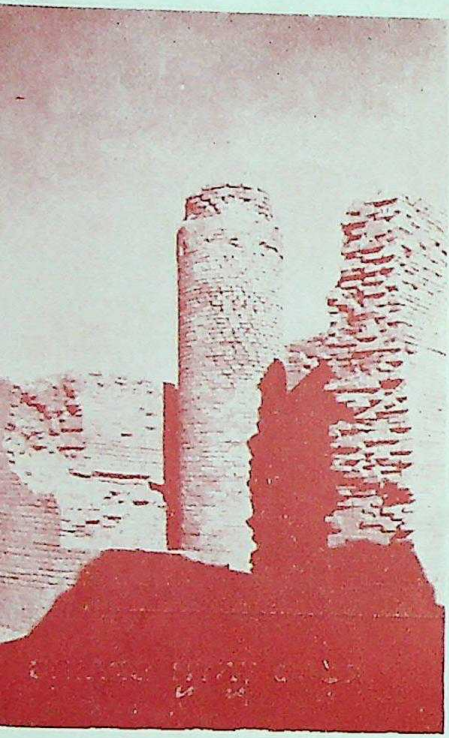
MOHEN-JO-DARO GENERAL VIEW OF THE RUINS



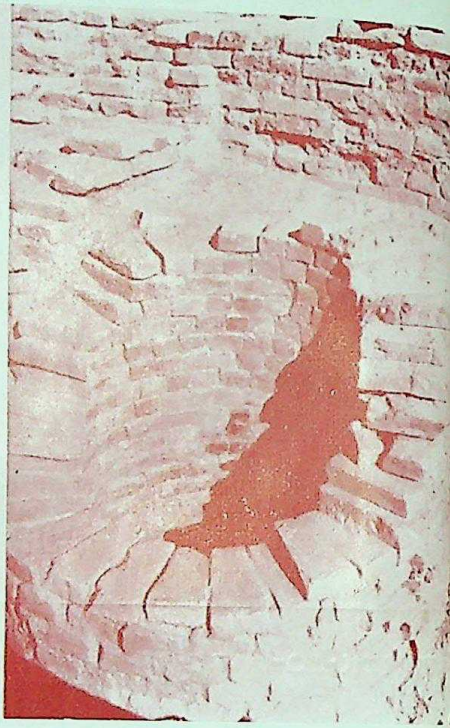
MOHEN-JO-DARO THE GREAT BATH



MOHEN-JO-DARO ROAD WITH DRAINS



MOHEN-JO-DARO

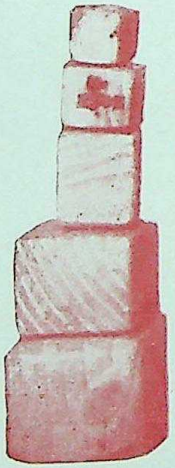


WELLS

MOHEN-JO-DARO POTTERY STORING JARS

MOHEN-JO-DARO

TOY OBJECTS



WEIGHTS

MOTHER GODDESS

THREE HEADED MALE GOD

MOHEN-JO-DARO
RELIGIOUS OBJECTS

BULL

MOHEN-JO-DARO SEALS